THE ROLE OF EMPATHY IN INTERPERSONAL AFFECT REGULATION IN INTIMATE RELATIONSHIPS

Thesis (cumulative thesis)
presented to the Faculty of Arts and Social Sciences
of the University of Zurich
for the degree of Doctor of Philosophy

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Accepted in the fall semester 2017
on the recommendation of the doctoral committee:

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Zurich, 2018

ABSTRACT

Interpersonal affect regulation has shown to be important for couple's relationship functioning and individual's well-being. However, less is known about the prerequisites for interpersonal affect regulation and the different contexts of interpersonal affect regulation have mainly been investigated independently of each other. The current thesis investigates empathy as a prerequisite for interpersonal affect regulation in the context of dyadic coping and conflicts and proposes a general framework for interpersonal affect regulation processes in order to integrate findings from different research avenues of interpersonal affect regulation. Results of the empirical studies supported the importance of affective and cognitive empathy within the process of dyadic coping (study 1), provided evidence that men's cognitive empathy helps couples to maintain high levels of dyadic coping in the long-run (study 2), and suggested that men's cognitive empathy is associated with better conflict regulation (study 3). Additionally, conflict regulation predicted concurrent relationship satisfaction but did not predict change in relationship satisfaction across 4 years (study 3). In sum, these results support the notion that empathy plays a crucial role in different contexts of interpersonal affect regulation. Extending research about the role of empathy in interpersonal affect regulation might be a promising pathway to improve clinical interventions.

ZUSAMMENFASSUNG

Interpersonelle Affektregulation ist ein wichtiger Prädiktor von Partnerschaftsqualität und individuellem Wohlbefinden. Darüber hingegen, welche Faktoren interpersonelle Affektregulation ermöglichen, ist weniger bekannt und die verschiedenen Kontexte von interpersoneller Affektregulation wurden meist unabhängig voneinander untersucht. Diese Arbeit untersucht die Rolle von Empathie in interpersoneller Affektregulation im Kontext von dyadischem Coping und Konflikten und postuliert ein Rahmenmodell für interpersonelle Affektregulationsprozesse, das die Integration von Erkenntnissen aus verschiedenen Forschungsbereichen ermöglichen soll. Die Resultate der empirischen Studien bestätigten die Wichtigkeit von affektiver und kognitiver Empathie für den Prozess des dyadischen Copings (Studie 1), zeigten, dass kognitive Empathie der Männer Paaren dabei hilft, längerfristig hohes dyadisches Coping aufrechtzuerhalten (Studie 2) und zeigten, dass kognitive Empathie der Männer mit besserer Konfliktregulation einhergeht (Studie 3). Weiter sagte Konfliktregulation momentane Beziehungszufriedenheit vorher, nicht aber den Verlauf von Beziehungszufriedenheit über 4 Jahre (Studie 3). Zusammenfassend deuten die Befunde darauf hin, dass Empathie eine zentrale Rolle für interpersonelle Affektregulation in unterschiedlichen Kontexten spielt. Weitere Forschung über die Rolle von Empathie in interpersoneller Affektregulation könnte vielversprechender sein um klinische Interventionen zu verbessern.

ACKNOWLEDGMENT

First and foremost, I would like to thank Prof. Dr. Guy Bodenmann for providing me with the opportunity to write this thesis. I am very grateful for your scientific and personal support throughout the past three years. My warmest thanks also for opening up so many opportunities for me regarding exchanges with international researchers and practical work.

Special thanks go to Prof. Dr. Dominik Schoebi, who agreed to be the second reviewer of this thesis. I appreciate your travelling to Zurich for my defense and I look forward to your professional feedback.

I also wish to thank Prof. Dr. Fridtjof Nussbeck, Dr. Andrea Horn, and Prof. Dr. Ashley Randall for their invaluable advice and their feedback on the papers.

My deepest gratitude goes to all my team and colleagues who supported me throughout my PhD in countless ways. I particularly wish to thank Rebekka for the immeasurable inspiring scientific discussions and for her patient emotional support when I struggled. Many thanks go to the "oldies" in our team, Anne, Valentina, Tina, Martina, and Mirjam K., who always had an open ear and shared their professional and personal expertise with me about doing a PhD. I would also to thank the "newbies", Mirjam S., Fabienne, and Florian: You are a great team to work with and to enjoy after-work time with!

I also wish to thank the whole PASEZ-team for all the inspiring exchanges. It was great to be part of that project and to collaborate with you! I also thank the master students and interns for their support in conducting the studies and data cleaning. Without them, it would not have been possible to realize the PASEZ project nor our own smaller study.

Thanks also goes to Shauna Mc Gee, who proofread the synopsis of this thesis.

Finally, special thanks also go to Benjamin Eisenegger, my family, and my friends for supporting me during difficult times and enjoying the beautiful moments with me!

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

"Menschen, die sich lieben, werden vom Gefühl getrieben."

Fred Ammon, Aphoristiker

INTRODUCTION AND LITERATURE REVIEW

1. Introduction

Feelings play a central role in interactions with an intimate partner (Schoebi & Randall, 2015). More specifically, interactions with one's partner can be a source of feelings (e.g., when getting a compliment, during conflicts), and feelings from outside the relationship are often, intentionally or unintentionally, brought into the relationship (Bodenmann, Ledermann, & Bradbury, 2007; Rime, 2009; Schoebi, 2008). Within an intimate relationship, the feelings of two partners come together and both partners can be influenced by the other partner's feelings (Butler, 2011; Kelley et al., 1983). This results in dynamic affective processes, which may or may not be successfully regulated by the couple. The regulation of affect within an intimate relationship plays a crucial role in the individual well-being of each partner (e.g., Bodenmann, Meuwly, & Kayser, 2011; Carr & Springer, 2010), as well as in relationship functioning (e.g., Falconier, Jackson, Hilpert, & Bodenmann, 2015; Woodin, 2011).

Several researchers have criticized the fact that the majority of affect regulation research has focused on how individuals regulate their affect but has neglected to consider that affect regulation often occurs interpersonally (Campos, Walle, Dahl, & Main, 2011; Levenson, Haase, Bloch, Holley, & Seider, 2014; Zaki & Williams, 2013). For example, Campos and colleagues stated that "since 2001, we counted 564 peer-reviewed empirical articles that have been published about emotion regulation in adults and adolescents; of these, only 66 (11.7%) studied emotion regulation while the participants were interacting with another person" (Campos et al., 2011, p. 28). However, a substantial amount of research has been conducted within specific contexts of interpersonal affect regulation. For instance, this includes research on the context of dyadic coping (i.e., how partners support each other in times of stress and jointly deal with stress; Bodenmann, 2000; Falconier, Randall, & Bodenmann, 2016), conflict regulation (Gottman, 1994), capitalization (i.e., how partners support each other when sharing positive events; Gable & Reis, 2010), and more recently studies have examined interpersonal emotional dynamics (Butler, 2011; Butler & Randall, 2013; Schoebi & Randall, 2015). These different contexts of interpersonal affect regulation have largely been studied independent of each other and are therefore often viewed as separate research avenues. Given that these contexts all examine affect regulation processes in interpersonal situations, it may be useful and perhaps even necessary to build a broader

framework which integrates the currently separate avenues of research. More specifically, such a framework could enable researchers to identify commonalities between the different contexts of interpersonal affect regulation. This could allow the different avenues of research to stimulate one another and insights gained in one context could more easily be transferred to another context. The current thesis aims to contribute to this goal by providing a general framework of interpersonal affect regulation processes with regard to intimate relationships.

Interpersonal affect regulation has shown to be beneficial for relationship functioning and individual well-being (Bodenmann et al., 2011; Carr & Springer, 2010; Falconier et al., 2015; Woodin, 2011). However, less is known about the prerequisites of effective interpersonal affect regulation. One variable that might be such a prerequisite is empathy. Specifically, empathy is concerned with the cognitive and affective reactions to another individual's affect, as it is commonly defined as feeling and understanding other's feelings and experiences (Segal, Gerdes, Lietz, Wagaman, & Geiger, 2017). Thus, empathy may play a crucial role in interpersonal affect regulation. However, although empathy has repeatedly been shown to be associated with prosocial behavior in varying contexts (Eisenberg, Eggum, & Di Giunta, 2010), studies are only recently emerging on its role in interpersonal affect regulation in intimate relationships (e.g., Devoldre, Davis, Verhofstadt, & Buysse, 2010). The current thesis therefore aims to contribute to this relatively new field of research by investigating the role of empathy in interpersonal affect regulation within the context of intimate relationships.

This thesis is structured as follows: In Chapter 2, interpersonal affect regulation is defined and a framework is proposed for interpersonal affect regulation processes. In Chapter 3, the concept of empathy is introduced. Chapter 4 then discusses the role of empathy in interpersonal affect regulation, with a focus on two specific contexts of interpersonal affect regulation, i.e., dyadic coping and couple conflicts. In Chapter 5, the aims and research questions of the empirical contributions are outlined. The empirical contributions, all of which address interpersonal affect regulation with a focus on the role of empathy, are presented in Chapters 6, 7, and 8. Finally, in Chapter 9, the empirical contributions are discussed and practical implications are derived.

2. Interpersonal Affect Regulation in Intimate Relationships

This chapter addresses interpersonal affect regulation as a general (not context-specific) process. It starts with defining interpersonal affect regulation. Afterwards, a general framework of interpersonal affect regulation processes is proposed, followed by a summary of measurements of interpersonal affect regulation.

2.1. Definition of Interpersonal Affect Regulation

When discussing affect regulation, the term *affect* first needs to be defined. Across the literature, several terms are used to describe feelings including mood, emotion, affect, and stress (Gross, 2014). However, different researchers have operationalized these terms in various different ways. To structure these different terms, Gross (2014) suggested the use of 'affect' as an umbrella term for the different affective states, and defined emotion, stress, and mood as distinct subordinate terms. Stress and emotions can both be elicited by personally significant events. However, stress is typically a negative, but rather unspecified, affective response to negative events, whereas emotions are more specific affective responses and can be elicited by both positive and negative events. In contrast moods are longer enduring affective responses, which are less strongly elicited by specific events (Gross, 2014). The current thesis adopts the terminology of Gross and uses affect as an umbrella term for emotions, moods, and stress.

Affect regulation refers to processes through which individuals shape the occurrence, duration, and intensity of the experience or expression of affect (Diamond & Fagundes, 2012; Eisenberg, Fabes, Guthrie, & Reiser, 2000; Gross, 2014). Within this broad definition, several facets of affect regulation can be differentiated. First, affect regulation can be *intrapersonal or interpersonal*. According to Zaki and Williams (2013), intrapersonal affect regulation refers to episodes occurring in the absence of a social encounter whereas interpersonal affect regulation occurs within the context of a social interaction. The current thesis focuses on interpersonal affect regulation in intimate relationships. Second, affect regulation can target *intrinsic or extrinsic* affective states. More specifically, intrinsic affect regulation refers to episodes in which an individual's own affect is regulated, whereas extrinsic affect regulation refers to episodes in which another individual's affect is regulated. For example, within the context of stress regulation, a stressed individual may try to regulate their stress by communicating their stress towards their partner (intrinsic interpersonal affect regulation). On the other hand, if the partner of this individual perceives their stress, the partner may try to provide support in order to calm down the stressed individual (extrinsic interpersonal affect

regulation). Third, affect regulation can occur on an *automatic or controlled* level (Gross, 2014; Niven, Totterdell, & Holman, 2009). Automatic affect regulation refers to regulation processes occurring without conscious awareness, such as when an individual quickly turns their attention away from their partner when he/she yells suddenly. In contrast, controlled affect regulation refers to conscious, effortful strategies, such as when an individual embraces another person in order to soothe them. However, distinguishing between automatic and controlled processes can be difficult in many situations; thus, it might be more appropriate to think of automatic and controlled processes as on a continuum, rather than as two distinct categories (Gross, 2014).

When focusing on interpersonal affect regulation in intimate relationships (as opposed to intrapersonal affect regulation), several additional points need to be considered due to the dyadic nature of interpersonal affect regulation (see Levenson et al., 2014). More specifically, when an affect regulation episode occurs within a dyadic interaction, it always involves two partners. Both partners experience affect which mutually influence one another. Furthermore, both partners may try to regulate their own and/or their partner's affect and these regulation attempts can, in turn, impact the other partner. In addition, the perceptions and reactions of both partners are influenced by their own individual characteristics, such as their goals, emotional competencies, personality, and previous learning experiences. Finally, this chain of actions and reactions unfolds across time. Thus, interpersonal affect regulation within an intimate relationship is a complex dynamic process and both partners are highly interdependent on each other.

Several fields of research have investigated interpersonal affect regulation in intimate relationships. The first and perhaps most widely investigated field of research was the examination of couple conflicts, a context that is likely to generate negative affect in both partners, as well as attempts to regulate the negative affect (Gottman, 1994). A second field of interpersonal affect regulation which has received extensive research attention is the field of relationship-external stress regulation (i.e., dyadic coping; Bodenmann, 2000; Falconier et al., 2016). In addition, research has also examined the interpersonal regulation of positive affects (i.e., capitalization; Gable & Reis, 2010; Gable, Reis, Impett, & Asher, 2004). More recently, studies have suggested that certain characteristics of interpersonal emotional dynamics may represent forms of interpersonal affect regulation (Butler, 2011; Butler & Randall, 2013; Randall & Schoebi, 2015). While these different fields are distinct from each other in various aspects, the most obvious difference is the type of regulated affect investigated: Negative affect generated by conflicts within the dyad is examined in the field of couple conflicts,

whereas negative affect generated by situations outside the relationship is examined in the field of dyadic coping, and positive affect in the field of capitalization. Furthermore, in the fields of dyadic coping and capitalization, the focus is placed on extrinsic affect regulation (i.e., supportive behaviors), whereas in the field of couple conflicts, a mixture of intrinsic and extrinsic affect regulation attempts most likely occur. The field of interpersonal emotional dynamics goes beyond extrinsic or intrinsic affect regulation attempts, and considers characteristics related to the way in which two partners mutually coordinate their affect as a potential form of interpersonal affect regulation (Butler, 2011; Butler & Randall, 2013; Randall & Schoebi, 2015). It therefore addresses the dyadic affective system as a unit. Despite these differences, these fields also have much in common. For instance, all fields target situations in which one or both partners experience affect, both partners interact with each other, and one or both partners attempt to influence the affect of the other. Hence, it is clear that all these research fields target interpersonal affect regulation. In addition, the fact that it is sometimes difficult to distinguish between the different research fields further highlights their interrelatedness. For example, couple interactions sometimes start as a supportive interaction but as it unfolds it develops into a conflict interaction. Thus, the different fields of interpersonal affect regulation can be seen to merge in some situations.

2.2. General Framework of Interpersonal Affect Regulation Processes

In order to better understand the complex dynamics of interpersonal affect regulation processes, it may be useful to develop a conceptual framework that structures the complex dynamics of interpersonal affect regulation. For some of the introduced research fields, such frameworks already exist (e.g., systemic transactional model, STM; Bodenmann, 1995, 2005; model of the capitalization process; Gable & Reis, 2010). However, in addition to these specific frameworks, it may also be beneficial to develop such a framework on a superordinate level (i.e., on the level of interpersonal affect regulation). This could help to better understand and highlight the commonalities between the different forms of interpersonal affect regulation. Such a framework could also help to transfer scientific findings from one field to the other. The necessity of integrating existing work from different fields of interpersonal affect regulation was also highlighted in recent reviews (Niven et al., 2009; Zaki & Williams, 2013). These reviews provided classification frameworks for the integration of interpersonal affect regulation strategies from different research areas into a single and coherent system. In the following paragraphs, the current thesis aims to extend these previous integrative frameworks by providing a framework for the *process* of interpersonal affect regulation (but not the specific regulation strategies, as this has been done

in previous work; see Niven et al., 2009; Zaki & Williams, 2013). Specifically, the framework aims to address how interpersonal affect regulation unfolds within a dyadic interaction. Specific regulation strategies (as discussed by Niven et al., 2009; Zaki & Williams, 2013) can then be embedded within that framework. Building on models of interpersonal communication (Hargie, Saunders, & Dickson, 1994) and the STM (Bodenmann, 1995, 2005), this thesis proposes a framework for interpersonal affect regulation processes in intimate relationships, in order to achieve a better understanding of the commonalities in the dynamics of interpersonal affect regulation across different contexts. This may allow different contexts of interpersonal affect regulation to stimulate one another and insights gained in one context may more easily be transferred to another context. In addition, it may allow better understanding the role of other variables such as empathy in interpersonal affect regulation. The proposed framework of interpersonal affect regulation processes in intimate relationships is illustrated in Figure 1.

Interpersonal affect regulation occurs, by definition, within the context of a social interaction (Zaki & Williams, 2013). Hence, a framework for the processes of interpersonal affect regulation not only needs to include both partners' affect, but also needs to consider other aspects of social interactions, such as the cognitions and behavioral reactions of both partners (Hargie et al., 1994). Furthermore, the individual states and traits of both partners needs to be taken into account, as they significantly influence affective, cognitive, and behavioral reactions to stimuli (Hargie et al., 1994; C. A. Smith & Lazarus, 1990). An individual's affect can influence their partner as soon as it is perceived, consciously or unconsciously, particularly when the affect is behaviorally expressed either verbally, paraverbally, or non-verbally[1] (Campos et al., 2011). Therefore, when partner A shows a behavior, partner B decodes it (Hargie et al., 1994). This *decoding* includes the *perception* of partner A's behavior (does partner B perceive the behavior or not?) as well as the *processing* of partner A's behavior (Hargie et al., 1994). The processing of partner A's behavior involves certain cognitions, affect, and behaviors[2] in partner B. These three components are strongly

[1] It may also be possible that one partner's affect can influence the other partner through mechanisms other than behavior, such as a physiological link between the two partners (for an overview see Timmons, Margolin, & Saxbe, 2015). However, whether such a link is considered to be mediated through a mechanism other than behavior, may differ depending on how broadly behavior is defined. For example, is a physiological reaction, such as an increased pulse, actually a nonverbal behavior, if the other partner (consciously or unconsciously) perceives the increased pulse?

[2] Or no behavioral reactions. However, according to Watzlawick and colleagues, it is not possible to *not* communicate (Watzlawick, Bavelas, & Jackson, 2011). Therefore, not reacting can also be viewed as a behavior.

intertwined and mutually influence each other (Hargie et al., 1994; C. A. Smith & Lazarus, 1990; Zaki & Ochsner, 2016). More specifically, partner B may have specific cognitions about partner A's behavior (e.g., "he seems to be sad", "what does she want from me?", "I do not care", "that's not fair"), may experience specific affect (e.g., anger, joy, sadness), and may behaviorally react (e.g., ask a question, defend themselves, express understanding). Furthermore, partner B's affect can be directly elicited by partner A's behaviorally-expressed affect (Gallese, Eagle, & Migone, 2007) or indirectly influenced by their own cognitions (C. A. Smith & Lazarus, 1990). In some cases, partner B's behavioral reaction may also be strongly intertwined with their own affect, and could then be primarily viewed as an indicator of the affect (e.g., when partner B experiences an affect and shows a corresponding facial expression; Mauss, Levenson, McCarter, Wilhelm, & Gross, 2005). However, in other situations, partner B's behavioral reaction may instead be an attempt to regulate partner A's behavior (e.g., if partner B appraises partner A's behavior as stress-expression, partner B may provide support; Bodenmann, 1995), or just an immediate behavioral reaction to partner A's behavior (Gallese et al., 2007).

The behavior which results from partner B's decoding, can in turn act as a new stimulus and initiate a decoding process in partner A (Bodenmann, 1995; Campos et al., 2011; Levenson et al., 2014). This can result in a certain behavior being expressed by partner A, which in turn, acts again as a new stimulus for partner B, and so forth. Hence, interpersonal affect regulation is embedded in a dynamic process: the behavior of both partners acts as a stimulus for the other partner, which can elicit changes in affect, cognitions, and behaviors from both partner, resulting in dynamic interpersonal process unfolding across time.

Additionally, decoding (perception and processing of the partner's behavior) is influenced by an individual's traits and states (C. A. Smith & Lazarus, 1990), such as attachment (see Mikulincer & Shaver, 2010), affective state (Bodenmann et al., 2015), or empathy (Verhofstadt et al., 2016). Individual states can change across the course of an interpersonal affect regulation episode due to their state character. Therefore, individual states and decoding are strongly connected, with individual states influencing the decoding process, and the decoding also altering the individual state.

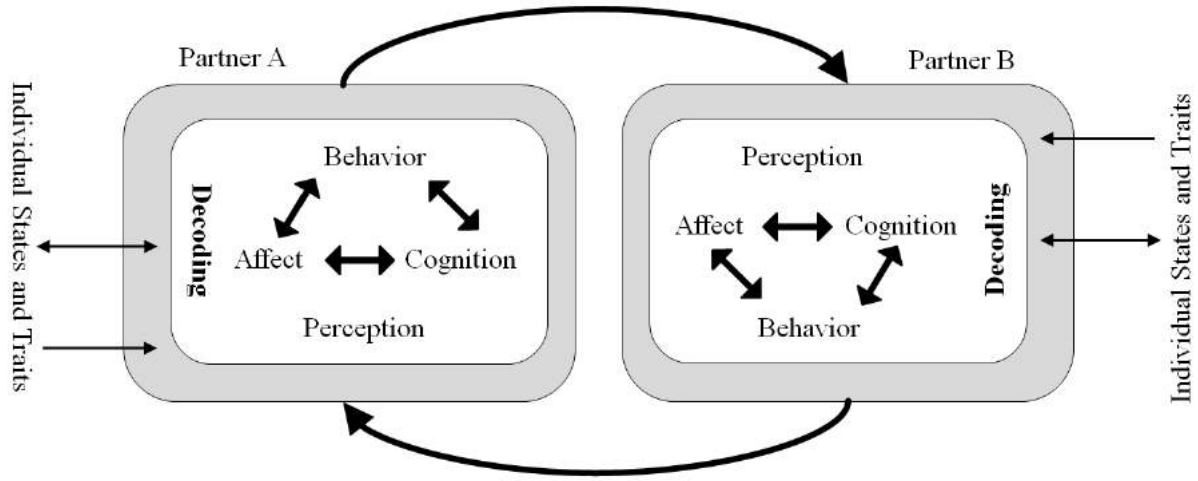

Figure 1. General framework of interpersonal affect regulation processes.

Within this framework on processes of interpersonal affect regulation, the regulation attempts of both partners can be embedded. More specifically, when an affect regulation attempt results in a change in any aspect of the proposed framework (i.e., perception, affect, cognition, behavior), the dynamic of the whole interaction can be influenced. The occurrence of a (conscious or unconscious) attempt to alter one's own or one's partner's affect by changing one aspect of the proposed framework, may be a core difference between (non-regulated) affective dynamics (e.g., affective reactivity) and episodes of interpersonal affect regulation. However, it may often be difficult to distinguish between general dynamics and episodes of interpersonal affect regulation (Levenson et al., 2014).

In the following, an example for an interpersonal affect regulation episode is outlined in order to illustrate potential dynamics of the proposed framework. Within the context of dyadic coping, partner A may provide a supportive *behavior* in order to regulate partner B's stress. Partner B may then *cognitively* appraise the supportive behavior as insufficient and may in turn intensify their stress expression in order to receive more support (i.e., changing their *behavior* with the goal to regulate their stress). Alternatively, partner B may feel misunderstood and get angry and start to blame partner A. At first, partner A may also experience aroused affect, but may try to calm themselves down by altering their *cognitions* (e.g., taking into account that partner B felt misunderstood and is stressed), and may try to show understanding in order to prevent an escalation of the conflict (i.e., changing *behavior* in order to regulate the potential conflict). These examples illustrate the dynamics of the processes within the proposed framework, demonstrate how various affect regulation attempts

can be embedded within the framework, and highlight how different research areas of interpersonal affect regulation (i.e., dyadic coping, conflicts) are closely intertwined with each other.

2.3. Measurements of Interpersonal Affect Regulation

Measurements of interpersonal affect regulation usually capture single facets of the construct. The most widely used measures are questionnaires which evaluate the behavioral reactions of both partners. For example, the Dyadic Coping Inventory (DCI) examines types of stress expression and supportive behaviors (Bodenmann, 2008a). Other questionnaires examining couples' conflicts often assess strategies of how partners behave in conflicts, such as the Revised Conflict Tactics Scale (Straus, Hamby, Boney-McCoy, & Sugarman, 1996); or how conflicts usually unfold, for example, whether they often escalate (e.g., the Managing Affect and Differences Scale; Arellano & Markman, 1995). Some questionnaires include partner reports, that is, how one partner perceives the behavior of the other partner, including the DCI (Bodenmann, 2008a) and the Perceived Responses to Capitalization Attempts scale (Gable et al., 2004). Furthermore, behavioral reactions of both partners can also be directly assessed by observing partners' behaviors in couples' interactions as, for example, in the System for Assessing Observed Dyadic Coping (SEDC; Bodenmann, 2008c) and the Specific Affect Coding System (SPAFF; Coan & Gottman, 2007).

In addition to measuring partners' behaviors, changes in the affect of both partners can also be measured. Affect can be measured using self-reported experiences, physiological reactions (e.g., heart rate, skin conductance, hormones), or observed behaviors (e.g., facial expressions; Mauss et al., 2005). The change in the affect of both partners can be assessed using repeated measurements of affect (e.g., Bloch, Haase, & Levenson, 2014; Meuwly et al., 2012). In addition to examining the separate changes in affect for both partners, the dynamic interplay of the affect of both partners can also be investigated. Such interpersonal dynamics have been examined in early studies on couple conflicts (e.g., Carstensen, Gottman, & Levenson, 1995; Gottman, Coan, Carrere, & Swanson, 1998) and have been recently defined in more detail by Butler (2011, 2017).

3. Empathy

Empathy is concerned with the cognitive and affective reactions to another individual's affect. As such, empathy may play a crucial role in interpersonal affect regulation. This chapter first provides an overview of the different definitions of empathy and second, addresses measurement-related aspects of empathy.

3.1. Definitions of Empathy

Over a hundred years ago, Edward Titchener coined the term *empathy* to translate the German word *Einfühlung* (introduced by Lipps in 1903) into English. Titchener derived the word empathy from the Greek word *empàtheia* meaning "in suffering" or "in passion" (Wispé, 1987). Despite its long history, there is still a wide array of definitions regarding empathy (Cuff, Brown, Taylor, & Howat, 2016). Empathy has been commonly defined in the literature as "feeling and understanding the emotions and experiences of others" (Segal et al., 2017, p. 1). This definition covers both the cognitive and affective aspects of empathy and many researchers have highlighted the necessity of distinguishing between these two aspects (Cuff et al., 2016; Davis, 1983; Duan & Hill, 1996; Zaki & Ochsner, 2016). The cognitive aspect captures the attempt to cognitively understand another individual's feelings, whereas the affective aspect captures the affective reaction to another individual's feelings. The distinction between these two aspects of empathy is supported by the finding that different brain regions are involved in affective and cognitive empathy (Zaki & Ochsner, 2012).

3.1.1. Cognitive Aspects of Empathy

In the context of intimate relationships, empathic accuracy is a widely investigated concept within the cognitive aspects of empathy (Ickes & Hodges, 2013). Empathic accuracy is defined as the accuracy with which one can perceive another individual's thoughts and feelings. 'Clarity of other's feelings' is another conceptually closely related construct, that is defined as knowing how other individuals feel and being able to name these feelings (Lischetzke, Eid, Wittig, & Trierweiler, 2001). However, this latter concept has a different historical background as it was derived from the analogous construct 'clarity of one's own feelings'. This is a specific facet of broader emotional competency constructs related to *one's own* feelings (i.e., emotional intelligence, emotional awareness; Salovey, Mayer, Goldman, Turvey, & Palfai, 1995; Swinkels & Giuliano, 1995) and alexithymia (Taylor, Ryan, & Bagby, 1985). Based on the definitions of 'empathic accuracy' and 'clarity of other's feelings', the two concepts can be seen to overlap strongly and it can be hard to distinguish between them. Thus, from a theoretical point of view, the two concepts can be viewed as almost

identical, with differences primarily related to the way in which they are measured (see Chapter 3.2; Lischetzke, Eid, & Diener, 2012).

Perspective taking is another concept related to empathy, which is frequently investigated within the context of intimate relationships and is often viewed as an aspect of cognitive empathy. Perspective taking is defined as the tendency to adopt the psychological point of view of others (Davis, 1983). Thus, in contrast to the other cognitive aspects of empathy, perspective taking captures a behavioral tendency to adopt the perspective of others, rather than the cognitive understanding of other individual's feelings. Due to this difference, some researchers argue that perspective taking should be differentiated from cognitive empathy (Cuff et al., 2016).

3.1.2. Affective Aspects of Empathy

Within the affective aspects of empathy, some researchers distinguish between *self*- and *other*-oriented feelings in reaction to another individual's feelings (i.e., feeling as the other vs. feeling for the other; Davis, 1983). For example, if a person is sad, the interaction partner can feel the same feeling as the person and feel sadness too (self-oriented feeling) or the interaction partner can feel for this person and be concerned about the person's sadness (other-oriented feeling). Some researchers (Cuff et al., 2016; Segal et al., 2017) not only distinguish between these two facets of affective empathy, but also suggest that only the self-oriented feelings should be considered as empathy whereas other-oriented feelings should be considered as a distinct concept, often termed as 'sympathy' or 'empathic concern'.

When discussing affective empathy, some researchers suggest that emotional contagion (the unconscious mimicry and subsequent sense of feelings) and personal distress (discomfort or anxiety that arises as a reaction on another individual's affect) should be distinguished from affective empathy (Davis, 1983; Segal et al., 2017). They argue that in the case of emotional contagion and personal distress, the awareness of the difference between one's own and the other individual's feelings (i.e., self-other awareness) is not maintained and/or that the regulation of one's own affects is not successful.

3.1.3. Integrative Models of Empathy

Some researchers suggest that the interrelations between the different aspects of empathy should be considered and have proposed process-oriented models integrating these different aspects of empathy. For instance, Davis (1996) proposed a model that integrates different aspects of empathy within a temporal process of an empathic episode. This model distinguishes between the antecedents (e.g., individual characteristics of the observer, the way

the speaker communicates), processes (e.g., motor mimicry, perspective taking), intrapersonal consequences (e.g., empathic concern, accuracy of the perception of the other's thoughts and feelings), and interpersonal consequences (e.g., prosocial behavior from the observer).

Another integrative model of empathy was recently proposed by Segal and colleagues (see Figure 2; 2017). According to them, the process of empathy is initiated by an environmental stimulus that triggers an affective response. The triggered affect is then processed through cognitive reasoning (i.e., through affective mentalizing such as imagining or thinking about the emotional state of another person, self-other awareness, emotion regulation, and perspective taking). Through the successful completion of all cognitive reasoning processes the full scope of empathy can be achieved. Thus, this model defines empathy as consisting of an affective response, affective mentalizing, self-other awareness, emotion regulation, and perspective taking. In contrast, when self-other awareness is not maintained, perspective-taking or emotion regulation is lacking, this results in personal distress or emotional contagion. Therefore, in this way this model considers personal distress and emotional contagion as distinct from empathy.

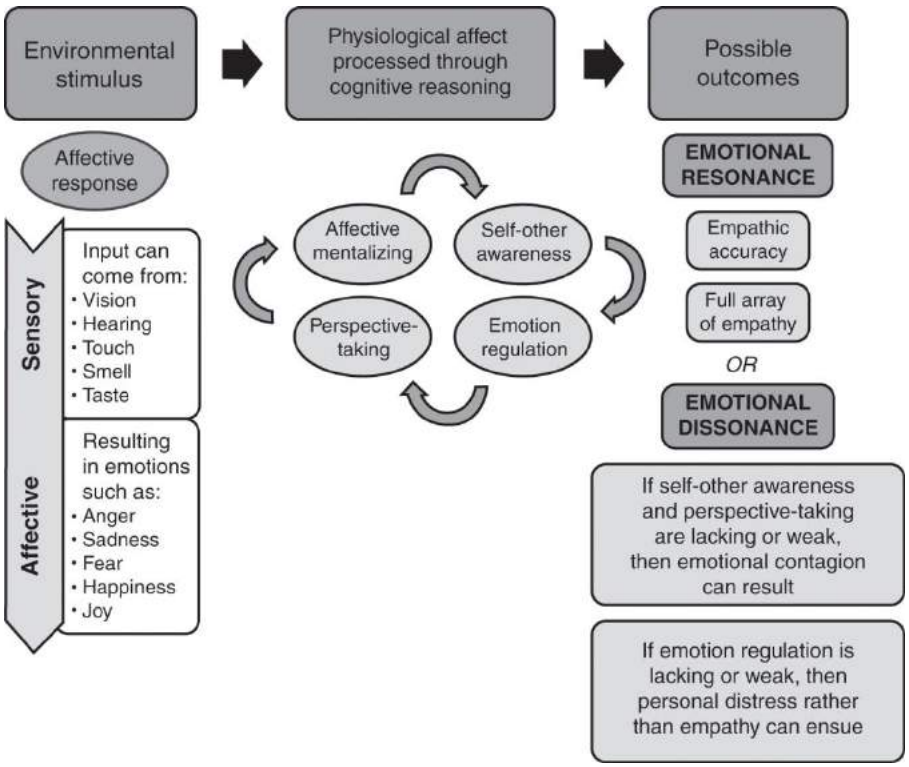

Figure 2. Integrative model of empathy proposed by Segal et al., 2017, p. 16.

3.1.4. Empathy – State or Trait?

Overall, many researchers indentify empathy as an ability or capacity, implying a trait concept (Cuff et al., 2016). Evidence for the trait component is provided by studies showing that for example anatomical differences and genetic factors account for variability in empathic abilities (see Cuff et al., 2016). Nevertheless, empathy unfolds within the context of a specific situation and the empathy of an individual appears to vary across different situations. More specifically, empathy seems to vary depending on the interaction partner (Long & Andrews, 1990). For example, empathy towards one's intimate partner has been shown to not entirely overlap with general empathy (Péloquin & Lafontaine, 2010). Furthermore, empathy may also differ depending on the type of feelings expressed by the other individual (Gadassi, Mor, & Rafaeli, 2011). Hence, while empathy appears to have a substantial trait component, it also unfolds within specific situations and varies to a certain amount across different situations.

3.2. Measurements of Empathy

Empathy can be measured by self-report measures (e.g., Interpersonal Reactivity Index; Davis, 1983; clarity of other's feelings; Lischetzke et al., 2001), partner-report measures (e.g., Revised Relationship Inventory; see Cramer & Jowett, 2010), or performance-based measures (e.g., Empathic Accuracy Paradigm; Ickes & Hodges, 2013). Self-report measures ask participants to rate their own empathic competencies (e.g., "I know what other people feel"; Lischetzke et al., 2001) and partner-report measures ask partner's of participants to rate the empathic competencies of the participant (e.g., "My partner nearly always knows exactly what I mean"; Cramer & Jowett, 2010). The most famous performance-based measure is the empathic accuracy paradigm (Ickes & Hodges, 2013). In videotaped couple interactions, individuals are first asked to note down their own thoughts and feelings across the interaction. Second, they are asked to note down what they believe their partner thought and felt across the interaction. Finally, trained raters code the two ratings on similarity whereas higher similarity indicates higher empathic accuracy.

Within the context of intimate relationships, performance-based measures of empathic accuracy are the most frequently used measures (Sened et al., 2017). Several studies have also used self-report measures (e.g., Davis & Oathout, 1987; Levesque, Lafontaine, Caron, Flesch, & Bjornson, 2014), with fewer studies using partner-report measures (Cramer & Jowett, 2010). The limited number of studies using partner-report measures suggests that partner-report measures correlate weakly to moderately with performance-based measures (Cohen, Schulz, Weiss, & Waldinger, 2012; Cramer & Jowett, 2010). To the best of the author's knowledge, partner-report measures of empathy have not yet been compared with self-report

measures of empathy. Partner-report measures can only capture the aspects of empathy that the partner can perceive, i.e., aspects of empathy that are communicated towards the partner. Thus, the moderate correlation between partner-report and performance-based measures appears plausible. In contrast, self-report and performance-based measures both claim to measure the actual empathy of an individual. However, although self-report and performance-based measures claim to assess similar constructs, the two measures are extremely weakly correlated (Ickes, 1993). Nevertheless, they predict similar outcomes: for example, both measures are positively associated with relationship functioning (Davis & Oathout, 1987; Levesque et al., 2014; Sened et al., 2017; Verhofstadt et al., 2016). The same pattern was also shown within the context of other emotional competencies, such as emotional intelligence: studies reported that performance-based measures show only weak to moderate correlations with self-report measures (O'Connor & Little, 2003; Zeidner, Kloda, & Matthews, 2013). Nevertheless, self-report and performance-based emotional intelligence measures have been shown to predict similar outcomes with regard to intimate relationship functioning (Brackett, Warner, & Bosco, 2005; Malouff, Schutte, & Thorsteinsson, 2014), but appear to account for distinct variance in relationship satisfaction and dyadic coping (Zeidner et al., 2013). In sum, self-report and performance-based measures of emotional competencies, such as empathy, appear to capture distinct constructs which predict similar outcomes.

Keefer (2014) provides one possible theoretical explanation for the distinctness of self-report and performance-based measures of emotional competencies. According to Keefer, self-report measures of emotional competencies capture self-efficacy beliefs about their competencies, whereas performance-based measures capture individual's actual abilities. Therefore, that self-reported and performance-based empathy are distinct but predict similar outcomes, could be explained in relation to Bandura's theory of self-efficacy (Bandura, 1997). Research by Bandura has shown that abilities and self-efficacy beliefs act as independent predictors for corresponding behaviors in various domains (e.g., a high sense of mathematical self-efficacy was associated with better mathematical performance, independent from mathematical ability; for an overview see Bandura, 1997). However, the underlying mechanisms of abilities and self-efficacy beliefs differ. Abilities produce direct effects on outcomes due to higher actual ability. In contrast, self-efficacy beliefs produce effects through cognitive processes (i.e., they influence individual's goal-setting and the types of anticipatory scenarios), motivational processes (i.e., they play a role in outcome expectancies, goals, and causal attributions), affective processes (i.e., they influence the self-regulation of affective states), and selection processes (i.e., they influence the selection of the environment; Bandura,

1997, 2010). Hence, in relation to empathy in intimate relationships, higher self-reported empathy could alter an individual's goal in emotional interactions with their intimate partner. Specifically, the individual may have a stronger goal to understand his/her partner's feelings (cognitive processes) and may make more effort to gain an understanding of the partner's feelings (motivational processes). Furthermore, individuals with higher self-reported empathy may be better able to regulate their own feelings during emotional interactions with their partner and may therefore be better able to focus on their partner's feelings (affective processes). According to the empathy model of Segal (2017), the successful regulation of an individual's own feelings is crucial in order to achieve empathy (see Chapter 3.1.3). Finally, individuals with higher self-efficacy beliefs may train their empathic abilities more frequently because they place themselves in emotional interactions more often and pay more attention to emotional interactions with others. This training may lead them to feel more confident in emotional interactions (selection processes). Hence, empathy measured by self-report questionnaires and empathy measured by performance-based measures may have similar consequences, but the underlying mechanisms may differ.

An alternative explanation for the differences between self-report and performance-based measures of empathy might lie in the degree to which they capture trait versus state aspects of empathy (see also Verhofstadt et al., 2016). For instance, the widely-used Empathic Accuracy Paradigm (performance-based measure) may capture more state aspects as it investigates short sequences of couple conversations. In contrast, self-report questionnaires most often capture trait aspects of empathy as they assess stable individual characteristics.

4. The Role of Empathy in Specific Situations of Interpersonal Affect Regulation

Interpersonal affect regulation can occur in various situations in intimate relationships. For instance, partners support each other in times of stress (i.e., dyadic coping; Bodenmann, 2000), capitalize on positive experiences (Gable et al., 2004), or try to settle their conflicts (Gottman, 1994). This thesis takes a closer look at two areas of interpersonal affect regulation, dyadic coping and conflict interactions, and examines the role of empathy in both areas. Both areas have been shown to be particularly relevant for relationship functioning (Falconier et al., 2015; Woodin, 2011). With regard to the general framework of interpersonal affect regulation outlined in Chapter 2.2 (Figure 1), empathy can be considered as an individual state or trait, that influences how an individual decodes their partner's affect (Segal et al., 2017). Each area will first be described in more detail, followed by an examination of the role of empathy in that area, and relevant clinical interventions.

4.1. The Context of Dyadic Coping

4.1.1. Regulation of Relationship External Stress within the Couple

Researchers have been interested in individual stress and coping processes for decades (Lazarus & Folkman, 1984). However, only in the early 1990s have researchers started to expand on individual-focused stress and coping models, by conceptualizing stress and coping as a systemic process (Bodenmann, 2000). In line with this new focus, several theoretical models have emerged, such as the Relationship Focused Coping Model by Coyne and Smith (1991), the Empathic Coping Model by DeLongis and O'Brien (1990), the Coping as a Communal Process Model by Lyons and colleagues (Lyons, Mickelson, Sullivan, & Coyne, 1998), the Theory of Social Support by Cutrona (1996), and the Systemic Transactional Model by Bodenmann (STM; 1995, 2005). Within these models, the STM is the most comprehensive, as it includes stress communication, supportive reactions, as well as conjoint coping efforts. It also emphasizes the dynamic and dyadic nature of the stress-coping process by suggesting that coping processes in couples consists of a chain of stress expressions and coping reactions from both partners.

The STM assumes a strong interdependency between the well-being of the romantic partners (Kelley et al., 1983). It postulates that the stress of one partner, when not regulated individually, can also affect the other partner, and that coping with stress is a joint process involving both partners (Bodenmann, 1995, 2005). Thus, it is a *dyadic* coping process. The dyadic coping process starts with a verbal or non-verbal stress expression from partner A.

Partner B then decodes the stress expression and responds with supportive reactions, their own stress expression, or fails to respond. Partner A may then continue with further stress expressions, and the conversation unfolds into a chain of stress expressions and reactions. Thus, it is a dynamic and also iterative process. Dyadic attempts to cope with the stress are called dyadic coping and different forms of dyadic coping can be identified. Positive forms of dyadic coping include supportive dyadic coping (emotional or problem-oriented supportive behaviors, such as helping one's partner to calm down or analyzing a problem), delegated dyadic coping (taking over tasks to reduce the burden on one's partner), and common dyadic coping (joint coping efforts in situations when both partners are stressed, such as joint problem solving, sharing of feelings, or relaxing together). In contrast, negative dyadic coping refers to supportive behaviors that are accompanied by hostility, or are provided ambivalently or superficially.

The provision of dyadic coping has been shown to regulate the other partner's stress, such that the more positive dyadic coping a stressed partner receives, the faster their cortisol levels were shown to recover (Meuwly et al., 2012). In addition, the provision of dyadic coping was shown to be accompanied by increases in joy and decreases in sadness (Schaer, Ditzen, Heinrichs, & Bodenmann, 2007). Dyadic coping is also associated with higher individual psychological well-being (Bodenmann et al., 2011), and has been shown to buffer the negative effects of stress on relationship functioning (Falconier, Nussbeck, & Bodenmann, 2013; Merz, Meuwly, Randall, & Bodenmann, 2014). Thus, the provision of dyadic coping appears to be an effective interpersonal affect regulation strategy to regulate stress.

Past research has repeatedly demonstrated the relevance of dyadic coping for relationship functioning. For instance, a meta-analysis of 72 independent samples showed a cross-sectional association of $r = .45$ between dyadic coping and relationship satisfaction (Falconier et al., 2015). The beneficial effects of dyadic coping also appear to persist across diverse cultures (Falconier et al., 2016; Hilpert et al., 2016). Furthermore, some studies suggest that dyadic coping can also contribute to long-term relationship functioning (Bodenmann & Cina, 2005; Bodenmann, Pihet, & Kayser, 2006; M. D. Johnson & Horne, 2016). However, similar to other indicators of relationship functioning, too (Kamp Dush, Taylor, & Kroeger, 2008; Lavner & Bradbury, 2010), dyadic coping has been shown to decline with increasing relationship duration (M. D. Johnson, Horne, & Galovan, 2016). This highlights the importance of strengthening couple's dyadic coping skills with couples' interventions.

4.1.2. The Role of Empathy in the Regulation of External Stress

According to the STM, the process of interpersonal regulation of external stress can be viewed as a dynamic and iterative process. This process starts with a stress communication from one partner, which needs to be perceived and understood by the other partner, and based on this understanding, support should be provided. Thus, the STM suggests that in order to be able to provide adequate dyadic coping, an individual requires an *emotional understanding* of their partner's stress, rather than an understanding of the problem-oriented aspects of the stress. That is, an individual needs to understand their partner's feelings which are associated with the experienced stress, in order to provide an adequate level of support that matches the real needs of the partner (Bodenmann & Randall, 2012). The relevance of this adequacy of support is also highlighted by several other theoretical models (Cutrona & Russell, 1990; Rini & Dunkel-Schetter, 2010).

The assumption that an individual needs to understand the underlying emotions of their partner's stress in order to provide adequate support is rooted in the transactional stress model proposed by Lazarus and Folkman (1984). This model defines experienced stress as a transactional process between the stressor and the individual and distinguishes the stressor (a specific situation) from the individually experienced stress. According to this model, the same stressor can evoke different emotional reactions in different individuals. Furthermore, when a stressor triggers personal schemata (Beck, Rush, Shaw, & Emery, 1994), the emotional stress reaction is more intense and endures for longer. Thus, stressors that at first appear to be marginal, can elicit strong emotional reactions when a personal schema is triggered. Therefore, as each individual can have different emotional reactions to the same stressful situation, an individual's stress cannot be understood only in relation to matter-of-fact aspects of the stress. An understanding of the individual's stress-related emotions is also required in order to fully understand their stress.

In sum, the STM assumes that an individual should understand their partner's stress-related feelings as a prerequisite for providing adequate dyadic coping. Based on this, it would be reasonable to assume that partners with higher empathic competencies, i.e. partners with higher competencies in emotionally understanding other people's feelings (higher trait empathy), would provide more and better appropriately-matched support. Furthermore, when a partner is more empathic in a specific situation (state empathy), he/she is likely to provide more and more adequate support in that interaction.

The role of empathy within the dyadic coping process was also considered by DeLongis and O'Brien (1990) in their concept of empathic coping. Empathic coping involves

four dimensions: taking the other's perspective, experiencing the other's feelings, interpreting the feelings underlying the other's nonverbal communication, and expressing caring or understanding. Thus, empathic coping integrates several aspects of empathy and supportive behaviors into one theoretical concept. This model therefore highlights the importance of specific aspects of empathy for supportive behaviors.

When integrating these theoretical assumptions into the interpersonal affect regulation model presented in Chapter 2.2, the process of interpersonal regulation of relationship-external stress can be summarized as follows. Partner A experiences an affect (stress) and behaves accordingly (expresses the stress). Partner B decodes partner A's behavior including certain cognitions and affect, and reacts in a certain way (e.g., ignoring partner A, asking questions to gain a better understanding, providing support, expressing irritation). Empathy can be seen as both an individual state and trait, which influences the decoding process. First, state empathy can be seen as closely intertwined with the decoding process (Zaki & Ochsner, 2016). More specifically, with respect to the cognitive aspects of the decoding process, partner B may try to take partner A's perspective (i.e., perspective taking), which may result in a better understanding of partner A's underlying feelings of stress (i.e., cognitive empathy or specific cognitions). With respect to the affective aspects of the decoding process, partner B may become strongly affected by partner A's feelings (i.e., affective empathy). Based on the gained cognitive and affective empathy, partner B may subsequently provide more adequate support. Second, trait empathy can be seen as a crucial emotional competency for providing support. More specifically, individuals with higher trait empathy may show stronger cognitive and affective empathy when decoding their partner's behavior. This can result in more and better appropriately-matching behavioral support reactions across various situations.

Recent studies support the proposed relevance of empathy for support provision in intimate relationships. For instance, one study of 83 female college students showed that empathy was positively associated with self-reported supportive behaviors (Devoldre et al., 2010). More specifically, higher levels of perspective taking, but not empathic concern, was associated with more social support. These results were partially replicated in a second study of 128 married couples, which again showed that perspective taking was positively associated with self-reported supportive behaviors (Devoldre et al., 2010). However, in contrast to the first study, empathic concern was positively associated with social support in women, but negatively associated with support provision in men. In addition, based on a sample of 187 couples, Levesque and colleagues (2014) showed that perspective taking, as well as empathic

concern, were positively associated with dyadic coping in both genders. Furthermore, two studies provided evidence for a positive association between empathy and observed supportive behaviors within a specific couple interaction. The first study (of 30 couples) showed that empathic accuracy and affective empathy were positively associated with supportive behavior (Verhofstadt, Buysse, Ickes, Davis, & Devoldre, 2008). The second study (of 50 couples) provided evidence for positive associations between supportive behaviors and perspective taking, empathic concern, and empathic accuracy (Verhofstadt et al., 2016). Additionally, two recent studies by Howland (2016) showed that first, empathic accuracy within a specific conversation is associated with a higher probability of providing invisible support (which is considered by Howland as better support) within the same conversation (study 1 based on 85 couples). Second, empathic accuracy was also shown to be associated with a higher likelihood of providing invisible support (study 2 based on 311 couples). In sum, with the exception of the study by Devoldre and colleagues (2010), these studies provide consistent evidence that different aspects of empathy are positively associated with support provision in intimate relationships.

With respect to gender differences in the association of empathy and dyadic coping, empirical evidence is heterogeneous. In terms of perspective taking, two studies showed evidence for effects being somewhat stronger in men than in women (Devoldre et al., 2010; Verhofstadt et al., 2016) whereas one study did not find any gender differences (Levesque et al., 2014). In terms of empathic concern, one study reported oppositional effects in men compared to women (Devoldre et al., 2010), while another study did not find any gender differences (Verhofstadt et al., 2016). Finally, in terms of empathic accuracy, one study reported stronger effects in men (Verhofstadt et al., 2016), while another found no differences across gender (Verhofstadt et al., 2008). Hence, given these heterogeneous findings, no conclusion can be drawn with regard to gender differences in the association of empathy and dyadic coping.

4.1.3. Dyadic Coping in Couple Interventions

Given the strong empirical evidence regarding the beneficial outcomes of dyadic coping for individual well-being and relationship functioning (Bodenmann et al., 2011; Falconier et al., 2015, 2016), strengthening couple's dyadic coping skills has also been targeted in couple interventions. More specifically, couple's dyadic coping skills are trained in the Couples Coping Enhancement Training (Bodenmann & Shantinath, 2004) and the Coping-Oriented Couple Therapy (COCT; Bodenmann, 2012; Bodenmann et al., 2008) using the 3-phase method. The 3-phase method is a therapeutically guided couple interaction which

is grounded in the STM (Bodenmann, 2008b). It trains couples in expressing their stress-related feelings, in gaining an emotional understanding of the stress, and in providing emotional supportive dyadic coping. Thus, in line with the theoretical assumptions of the STM, strengthening couples' emotional understanding of a partner's stress (i.e., enhancing state empathy), is a core aim of the 3-phase method in order to improve couple's dyadic coping skills.

In the 3-phase method, couples talk about an external stressful event of one partner. The 3-phase method provides clearly defined roles for both partners, with one partner being the speaker and the other being the listener, and consists of three distinct phases (for a detailed description see Bodenmann, 2008b). In the ***first phase***, the speaker is asked to express their stress-related emotions. The therapist supports the speaker with open-ended questions to target the emotions associated with the stressful event (e.g., "How did you feel?", "Please describe your anger in more detail"). This enables the speaker to access emotional aspects of the stressful event. In the beginning, the speaker often describes relatively easily accessible superficial emotions such as arousal or anger. With guidance of the therapist, the speaker continues to immerse themselves in their emotions and to access deeper emotions, such as sadness, helplessness, or shame. This process is called *immersion*. While the speaker expresses their stress, the listener is asked to paraphrase the emotional aspects of the speaker's self-disclosure in regular intervals. The aim of this first phase is for both partners to get a better understanding of the emotional aspects of the speaker's stress. In the ***second phase*** of the 3-phase method, the listener is asked to provide emotional supportive dyadic coping (e.g., expressing understanding, encouraging the partner) based on the emotional understanding gained in the first phase. In the ***third phase*** of the 3-phase method, the speaker provides feedback regarding the received dyadic coping, in order to allow partners to improve their dyadic coping skills in the long-term. Thus, the 3-phase method focuses particularly on the expression and understanding of emotional aspects of the stress, and supportive dyadic coping is only provided after an emotional understanding of the speaker’s stress is gained.

The importance of immersion is grounded in the concept of schemata (Beck et al., 1994). Through immersion, the speaker is able to access deeper emotions, which are more closely related to activated schemata. Thus, the expression of deeper emotions enables both partners to gain a greater emotional understanding of the partner's stress. The importance of immersion was also emphasized in Emotion Focused Couple Therapy (EFCT; S. M. Johnson & Greenberg, 1995). EFCT conceptualizes intimate relationships as attachment bonds and perceives conflicts as interruptions of this attachment bond. In conflicts, partners often

express their easily accessible ‘secondary’ emotions (comparable to superficial emotions). In therapy, couples train to become aware of their ‘primary’ emotions (comparable to deeper emotions), which are closely related to their underlying attachment needs. Thus, by becoming aware of primary emotions and expressing them, partners gain a mutual understanding of each other’s underlying attachment need, which rebuilds the attachment bond. Therefore, the 3-phase method and the EFCT attempt to get closer to the real underlying reason for the stress or conflict, by accessing deeper or primary emotions, respectively.

The efficacy of the 3-phase method is well established in both couples therapy and relationship education programs (Bodenmann et al., 2008; Bodenmann, Pihet, Shantinath, Cina, & Widmer, 2006; Bodenmann & Shantinath, 2004; Ledermann, Bodenmann, & Cina, 2007). In addition, a process-oriented study examined the emotional reactions of partners undergoing the 3-phase method. Results showed that the process of immersion (first phase) was accompanied by more intense, deeper emotions, and that the provision of emotional supportive dyadic coping in the second phase was associated with emotional recovery (Schaer et al., 2007). More specifically, speakers reported significant increases in their reporting of sadness and decreases in reporting of joy, whereas anger remained stable. This suggests that in the first phase of the 3-phase method, deeper emotions (e.g., sadness) increase, whereas more superficial emotions (e.g., anger) do not (Schaer et al., 2007). In the second phase of the 3-phase method, speakers reported significant increases in their reporting of joy and decreases in reporting of sadness, indicating that speakers emotionally recovered in the second phase.

4.2. The Context of Conflicts

4.2.1. Interpersonal Regulation of Conflicts Within the Couple

The scientific investigation of conflicts within couples only started in the late 1980s, initiated by a small group of professionals in order to provide a scientific basis for interventions targeted at distressed couples (Bradbury & Karney, 2010). One of the pioneers in this field is John M. Gottman, who examined hundreds of videotaped conflict interactions and based on these observations, developed a model of how conflicts typically unfold. According to Gottman (1994), conflict interactions can be divided into three phases: The first phase represents the agenda-building phase in which couples set-up the topic and present their points of view and feelings. In the second phase, the arguing phase, partners try to persuade one another by criticizing each other and defending their own position. The arguing phase is often accompanied by intense negative emotions. Partners often try to dominate each other and to promote their own needs. However, during the course of the arguing phase partners can

try to reduce negativity using de-escalating strategies, such as becoming aware of common ground, information exchange, humor, and distraction. In the third phase, the negotiation phase, couples ideally try to compromise and to find a solution or, if not possible, to continue their argument with counterproposals (Gottman, 1994). Hence, according to Gottman, a conflict can be viewed as a dynamic interaction that unfolds across time and which may or may not be successfully regulated by the couple.

Although conflict interactions were first conceptualized as a dynamic interaction in the 1990s (Gottman, 1994), the vast majority of subsequent research has examined aggregated behaviors and neglected dynamics or regulation processes within conflicts. For example, a meta-analysis examining 64 cross-sectional studies (5071 couples) showed that in general, less satisfied couples showed more negative and less positive communication behaviors (Woodin, 2011). Negative conflict communication behaviors include behaviors such as hostility, belligerence, defensiveness, and withdrawal, whereas positive conflict communication behaviors include behaviors such as offering solutions, listen attentively, self-disclosure, forgiveness, and repair seeking. In addition to the independent effects of positive and negative conflict communication on relationship satisfaction, there is also evidence for an interaction effect, which suggest that the ratio between positivity and negativity is important (Gottman & Levenson, 1992). Furthermore, researchers have also investigated patterns of conflict communications. The most recognized pattern of conflict communication in couples is the demand-withdraw pattern, which is characterized by demanding behavior in one partner and the subsequent withdrawal of the other partner. Studies have shown that distressed couples engage in demand-withdraw patterns more often than satisfied couples (Eldridge, Sevier, Jones, Atkins, & Christensen, 2007). In sum, the effects of aggregated conflict communication behaviors on concurrent relationship satisfaction have been well-demonstrated in the research.

Less evidence is available regarding the effects of couples' conflict communication on long-term relationship outcomes, and the limited research available show that the findings are inconsistent. Some studies suggest that less negativity and more positivity predict increases in relationship satisfaction across time (M. D. Johnson et al., 2005; Lawrence et al., 2008). In contrast, other studies suggest that negative conflict communication can have positive effects on long-term relationship satisfaction (Gottman & Krokoff, 1989; Karney & Bradbury, 1997; Markman, Rhoades, Stanley, Ragan, & Whitton, 2010). However, it must also be noted that several studies did not find any effects of conflict communication on changes in relationship satisfaction (Graber, Laurenceau, Miga, Chango, & Coan, 2011; McNulty & Russell, 2010),

or found only effects consistent with cross-sectional findings for some types of behaviors but not for others (e.g., disengagement predicted decreases in marital satisfaction across 30 months whereas negativity did not predict changes in marital satisfaction across 30 months; D. A. Smith, Vivian, & O'Leary, 1990). In sum, the evidence for the effects of couple's conflict communication on long-term relationship satisfaction is inconsistent and future research is required here.

One explanation for these heterogeneous findings proposed by Overall and McNulty (2017), is that negative communication may be beneficial under certain circumstances. More specifically, they suggested that direct negative communication, but not indirect negative communication may be beneficial for long-term relationship satisfaction, particularly in situations where the couple faces severe problems. They argue that when negative communication is direct, rather than indirect, it increases the probability that the problem will change in a desired way, which may be beneficial for long-term relationship satisfaction. Two studies provide initial evidence in support of this explanation (McNulty & Russell, 2010; Overall, Fletcher, Simpson, & Sibley, 2009). Another possible explanation may be that the ratio between negativity and positivity needs be taken into account. That is, negativity may only be detrimental for long-term relationship outcomes when positivity is also low (M. D. Johnson et al., 2005). A third possible explanation may be that the temporal dynamics within a conflict interaction also need to be taken into account. For instance, negativity may be beneficial when it occurs in the beginning of a conflict interaction and can be down-regulated throughout a conflict interaction, but detrimental when cycles of negativity persist, resulting in an escalating conflict (Bloch et al., 2014).

Early research by Gottman and colleagues provide evidence to suggest that the dynamics of couple's conflict interaction are associated with relationship stability and relationship satisfaction. For example, unhappy couples were shown to have longer cycles of negative affect in discussions about problem areas of continuous disagreement in their relationships (Carstensen et al., 1995). Furthermore, lower marital satisfaction was shown to be associated with greater physiological linkage between the partners in problem-solving discussions and stronger reciprocity of negative affects between partners (Levenson & Gottman, 1983). In addition, for couples that got divorced within the first 6 years of marriage, their problem-solving discussions in the beginning of the marriage showed more negative start-up (i.e., neutral affect followed by negative affect), less de-escalation (i.e., negative affect followed by neutral affect), and more negativity reciprocity (i.e., negative affect followed by negative affect; Gottman et al., 1998). However, contrary to the expectations, this

study found little evidence to suggest that the dynamic interaction patterns could predict change in relationship satisfaction over time (Gottman et al., 1998). An earlier study examining temporal trajectories of negativity across a conflict interaction, identified three temporal trajectories which were characteristic for couples that did not divorce within 4 years: (1) low negativity across the entire discussion, (2) low negativity in the beginning of the discussion, followed by moderate negativity in the middle, and low negativity in the end (inverse u-shaped pattern), and (3) high negativity in the beginning of the discussion, followed by moderate negativity in the middle and in the end (Gottman, 1993). Finally, a more recent study showed that down-regulation of negative behavior and negative self-reported experience by wives was associated with higher marital satisfaction in both partners. Furthermore, down-regulation of negative behavior by both partners predicted changes in wives' relationship satisfaction within 6 years, and down-regulation of negative behavior by wives predicted changes in wives' relationship satisfaction within 13 years (Bloch et al., 2014). Overall, these findings suggest that more satisfied couples are better at regulating their conflicts in comparison to less satisfied couples.

4.2.2. The Role of Empathy within the Regulation of Conflicts

A conflict interaction can be viewed as a chain of behaviors exchanged between two partners, which develops across time. The behaviors of one partner need to be decoded by the other partner (Bradbury & Karney, 2010), which influences how the other partner feels, thinks, and reacts (see the framework presented in Chapter 2.2, Figure 1). The decoding of the other's behavior therefore appears to be a crucial point which may alter the course of the conflict interaction. As in the context of dyadic coping, empathy can be seen as an individual state and trait, which influences the decoding process. First, state empathy may be seen as closely intertwined with the decoding process (Zaki & Ochsner, 2016), resulting in altered cognitions and affect within a specific conflict interaction (i.e., cognitions and affects which are characterized by affective and cognitive empathy). These cognitions and affects may subsequently facilitate more conciliatory behavioral reactions. Second, trait empathy may be viewed as an emotional competency which results in stronger affective and cognitive empathy when decoding the other partner's behavior within a specific conflict interaction. This can result in improved regulation of conflict interactions.

With regard to cognitive empathy, being better able to cognitively understand the other partner's point of view (i.e., their feelings and thoughts), may foster more conciliatory reactions and may therefore contribute to the regulation of conflict. Previous studies on couples' conflict interactions provide some evidence for this. For example, a study of 123

couples showed that one partner having a more accurate understanding of the other partner's feelings within a specific conversation (i.e., empathic accuracy), was associated with increased self-reported constructive and conciliatory reactions to destructive partner behaviors in themselves (actor effect). Furthermore, empathic accuracy of one partner was shown to predict higher levels of constructive and conciliatory reactions to destructive partner behaviors in the other partner (partner effect; Kilpatrick, Bissonnette, & Rusbult, 2002). In line with these results, a recent study with 109 couples reported that empathic accuracy was associated with less destructive and aggressive self-reported behaviors in conflict interactions (Cohen, Schulz, Liu, Halassa, & Waldinger, 2015). Additionally, a cross-sectional study of 122 participants examined general conflict styles (not specific to the romantic relationship) as reported by the participants and a significant other (i.e., romantic partner, close friend, family member, or colleague). Results showed that the self-reported tendency to adopt another person's perspective (i.e., perspective taking) was associated with a more yielding and less fighting conflict style (Rizkalla, Wertheim, & Hodgson, 2008). Finally, a husband's communication of empathic understanding was shown to significantly reduce his own negativity and increase his positivity in conflict interactions (Gottman, Driver, & Tabares, 2015). In contrast to these results, Winczewsky, Bowen, and Collins (2016) found no significant main effect of empathic accuracy on responsive behaviors in conflict interactions. However, this study did report an interaction effect of empathic concern and empathic accuracy: Empathic accuracy was only positively associated with responsive behavior in conflict interactions when empathic concern was high.

Regarding gender differences, two studies reported more significant effects for women's empathy (Cohen et al., 2015; Kilpatrick et al., 2002), one study reported effects only for men (Gottman et al., 2015), and two studies found no evidence for gender differences (Rizkalla et al., 2008; Winczewski et al., 2016). Hence, given the mixed findings, no conclusions can be drawn in relation to gender differences.

In contrast to cognitive empathy, the role of affective empathy (i.e., feeling what the partner feels) may be more difficult to understand. Strong affective empathy may intensify escalation processes if a partner becomes strongly emotionally affected by the other partner's negative affect. However, the role of affective empathy may also depend on the type of affect. More specifically, when an individual gets affected by deeper or primary emotions of their partner, affective empathy may be a valuable resource, as it may enhance feelings of compassion towards the partner and increase conciliatory reactions (Bodenmann, 2012; S. M. Johnson & Greenberg, 1995; Sanford, 2007).

Only a few empirical studies have investigated the role of affective empathy in couple's conflicts. One study found that empathic concern was associated with increased responsive behavior in conflict interactions (Winczewski et al., 2016), indicating that affective empathy is associated with improved conflict regulation. Other research showed that partners with higher empathic concern experienced increased stress and worse mood in situations in which they perceived a divergence of interests with their partner (Righetti, Gere, Hofmann, Visserman, & Van Lange, 2016). However, this study did not differentiate between whether the partners discussed the divergence of interests or not, limiting its informative value with regard to conflicts. In addition, some research has examined the influence of adolescents' empathy on their conflict behavior with their parents. Findings suggest that empathic concern is associated with higher levels of compliance, reduced conflict escalation, and increased problem solving. However, the positive effects of affective empathy were weaker and less consistent, when compared to equivalent effects of cognitive empathy (i.e., perspective taking; Van Lissa, Hawk, Branje, Koot, & Meeus, 2016; Van Lissa, Hawk, & Meeus, 2017). Nevertheless, these studies suggest that empathic concern may result in stronger affective reactions in conflict interactions (Righetti et al., 2016) and may support a better regulation of conflicts.

4.2.3. Regulation of Conflicts in Couple Interventions

Training couples to regulate their conflicts successfully is a core component of the majority of empirically validated couple interventions. Many couple therapies do this through communication training. In Behavioral Couple Therapy (Jacobson & Margolin, 1979), Cognitive Behavioral Couple Therapy (Baucom & Epstein, 1990), and Coping-Oriented Couple Therapy (COCT; Bodenmann, 2012; Bodenmann et al., 2008), couples are trained to separate the roles of the speaker and the listener. The *speaker* is asked to phrase their statements in terms of specific incidents using 'I-statements', without the use of blaming or overgeneralizations. The speaker is encouraged to express their point of view, including all associated thoughts and feelings. Furthermore, in COCT, the speaker is supported by the therapist to express not only superficial feelings, but to immerse and express deeper feelings. This therapeutic technique and the process of immersion are similar as described in the context of the 3-phase method in Chapter 4.1.3. The *listener* is asked not to interrupt the speaker and to paraphrase what they have understood from their partner's statements, without adding their own interpretations. These rules do not allow negative communication behaviors (e.g., criticism, belligerence, provocation, defensiveness), help to slow down the speed of the conversation, and foster a mutual understanding of each other's point of view. Thus, a core

aim of these rules is to enhance understanding of each other's thoughts and feelings, or in other words: to enhance partner's empathy. As a result, the rules help couples to regulate their conflict interactions successfully (i.e., in a non-escalating manner). Similar techniques are also applied in couple education programs, such as the Couples Coping Enhancement Training (CCET; Bodenmann & Shantinath, 2004), the Premarital Relationship Enhancement Program (PREP; Markman, Floyd, Stanley, & Jamieson, 1984), and the Premarital Preparation – A Couples' Learning Program (Thurmaier, Engl, Eckert, & Hahlweg, 1992).

A different approach is used in Emotionally Focused Couple Therapy (EFCT; S. M. Johnson & Greenberg, 1995). As previously described in Chapter 4.1.3, EFCT defines conflicts as an interruption of the attachment bond and negative behaviors are viewed as attempts to either retrieve the attachment or to protect attachment needs. According to the EFCT, escalating conflict interactions often emerge due to the secondary emotions expressed by partners. In therapy, couples are trained to get aware of and express their primary emotions which are closely related with their attachment needs. When partners become aware of and express their primary emotions, they become emotionally bonded again, which facilitates the de-escalation of the conflict interaction. Thus, in order to regulate couples' conflicts, EFCT fosters mutual emotional understanding of both partner's primary emotions (i.e., empathy towards the other partner's primary emotions).

In sum, gaining a mutual understanding of both partner's points of view – including their thoughts and feelings – is a core aim of couple interventions which try to help couples to regulate their conflicts.

EMPIRICAL CONTRIBUTIONS

5. Research Questions and Study Design

The present thesis aims to provide additional insights into the role of empathy in interpersonal affect regulation in intimate relationships. Study 1 and Study 2 addressed the role of empathy in dyadic coping, and Study 3 addressed the role of empathy in conflict interactions. Study 1 was based on a smaller study, which used a process-oriented approach[3]. Study 2 and study 3 were based on data of from a large longitudinal project[4], with 368 couples at the first measurement point, and follow-up data across 4 years with annual measurements.

Study 1

Dyadic coping is a dynamic and iterative process involving stress expressions from one partner and supportive reactions from the other partner. In the 3-phase method, a therapeutically guided couple interaction which aims to strengthen couple's dyadic coping skills (Bodenmann, 2008b), stress expressions are structurally separated from the provisions of support. In a first phase, one partner expresses his/her stress-related emotions with the aim of enhancing the other partner's understanding of the stress. Then, in a second phase, the listening partner is asked to provide emotional support. Due to the structural separation of the stress expression (and the gaining of an emotional understanding) from the support provision, this setting is particularly suitable for examining the processes of stress expression, emotional understanding, and supportive behaviors.

Study 1 assessed a sample of 33 couples who took part in the 3-phase method, with both partners taking turns in the role of the stress discloser and the support provider. This study examined whether processes within the first phase of the 3-phase method resulted in stronger affective and cognitive empathy, and whether the gained empathy is a prerequisite for the provision of supportive dyadic coping in the second phase. Thus, study 1 examined the role of state empathy within the process of dyadic coping based on a therapeutic guided

[3] The study was planned and implemented by the author and Rebekka Kuhn and supervised and funded by Guy Bodenmann.

[4] Sinergia Project "Impact of Stress on Relationship Development of Couples and Children: A Longitudinal Approach on Dyadic Development Across the Lifespan" funded by the Swiss National Science Foundation (SNF: CRSI11_133004/1) to Guy Bodenmann, Veronika Brandstätter, Mike Martin, Fridtjof W. Nussbeck, & Tom Bradbury.

couple interaction. Study 1 can expand on previous knowledge by providing insights into the processes of support provision in couples. Furthermore, this study can provide additional knowledge on the underlying mechanisms of the 3-phase method, which can help to tailor this intervention to couples' specific needs.

Regarding the framework of interpersonal affect regulation processes presented in Chapter 2.2, study 1 examined partner A's affect (i.e., immersion), partner B's cognitive processing of partner A's stress expression (i.e., summarizing), the role of partner B's state empathy (i.e., affective and cognitive state empathy), and partner B's emotional supportive behaviors as perceived by partner A (i.e., perceived emotional supportive dyadic coping). See Figure 3 for a graphical depiction of the empirically investigated aspects of interpersonal affect regulation in study 1.

Study 2

Several cross-sectional studies suggest that trait empathic competencies contribute to a successful dyadic coping process (Devoldre et al., 2010; Levesque et al., 2014; Verhofstadt et al., 2016). However, dyadic coping has been shown to worsen across time (M. D. Johnson et al., 2016). Given that trait empathy may be seen as an emotional competency facilitating better support reactions across various situations (see Chapter 4.1.2), trait empathy may buffer the decline of dyadic coping across time. More specifically, trait empathy could be a resource that helps partners to maintain high levels of dyadic coping across time.

Study 2 tested this hypothesis and examined the effect of self-reported cognitive trait empathy on the temporal trajectory of supportive dyadic coping as perceived by the partner across 2 years[5]. Regarding the framework of interpersonal affect regulation processes presented in Chapter 2.2, study 2 examined the influence of partner B's cognitive trait empathy on his/her supportive behavior as decoded by partner A. See Figure 3 for a graphical depiction of the empirically investigated aspects of interpersonal affect regulation in study 2.

[5] This study was based on data from three measurement points only, as the data for the fourth and fifth measurement point was not available at the time of the analyses.

Study 3

Past studies have shown that cognitive empathy covaries with de-escalating conflict interactions (e.g., Cohen et al., 2015; Rizkalla et al., 2008), indicating that cognitive empathy is a prerequisite for the successful regulation of conflicts. However, in these previous studies, the communication outcome variables were measured by using questionnaires. Study 3 aimed to expand on these previous studies and analyzed the communication outcome variable by using observational data. More specifically, study 3 examined whether cognitive trait empathy predicts the temporal trajectories of the negative behaviors of both partners. Thus, study 3 assessed whether cognitive trait empathy alters how negativity unfolds across the course of a conflict interaction. Therefore, this study captured a facet of the dynamic processes of interpersonal affect regulation in a conflict discussion and investigated whether cognitive trait empathy alters this dynamic process.

In addition, previous research has revealed inconsistent findings on the effects of negativity in conflict interactions on long-term relationship satisfaction (e.g., M. D. Johnson et al., 2005; Karney & Bradbury, 1997). This study therefore investigated whether the conceptualization of a conflict interaction as a dynamic interpersonal affect regulation task could provide further insight into the effect of conflict communication on long-term relationship satisfaction. More specifically, this study tested whether trajectories of negative behaviors across a conflict interaction predicted changes in relationship satisfaction across 5 years.

Regarding the framework of interpersonal affect regulation processes presented in Chapter 2.2, study 3 examined the effect of both partners' cognitive trait empathy on the temporal trajectory of their own behavior across the course of a conflict interaction. Additionally, this study further examined the effect of the temporal trajectory of both partner's behavior across the conflict interaction on the changes in long-term relationship satisfaction. See Figure 3 for a graphical depiction of the empirically investigated aspects of interpersonal affect regulation in study 3.

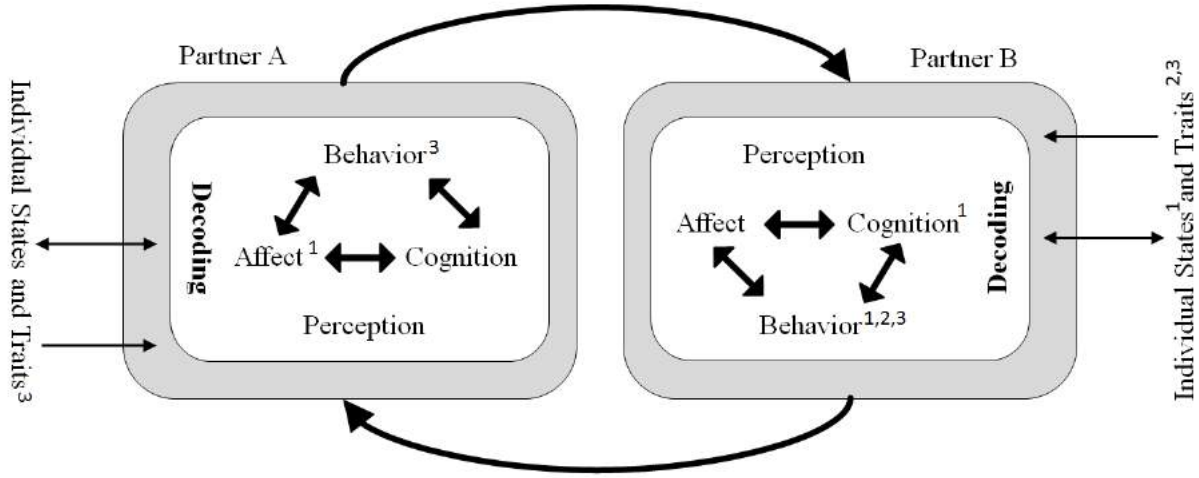

Figure 3. Summary of the empirically investigated aspects of interpersonal affect regulation in study 1, 2, and 3. The indices next to the specific aspects within the model indicate in which study the respective aspect was examined (1 = study 1; 2 = study 2; 3 = study 3).

Study 1

A Process-Oriented Analysis of a Therapeutic Couple Intervention Strengthening Dyadic Coping

This is the version of the manuscript before the co-authors reviewed it.
A revised version of the manuscript (including revisions of all co-authors) is in revision in the Journal of Couple & Relationship Therapy:
Leuchtmann, L., Horn, A.B., Randall, A.K., Kuhn, R., Bodenmann, G. (under review). *A process-oriented analysis of the 3-phase method: A therapeutic couple intervention strengthening dyadic coping*.

6. Study 1: A Process-Oriented Analysis of a Therapeutic Couple Intervention Strengthening Dyadic Coping

Abstract

The efficacy of intervention programs for couples is presumed as well validated. However, less is known about the underlying mechanisms of couple interventions. The current study aims to address this gap by examining the underlying mechanisms of the 3-phase method, a therapeutically guided interaction exercise strengthening couple's dyadic coping skills. Thirty-three couples underwent the 3-phase method twice with each partner having once the role of the speaker and the listener, respectively. During the interactions, the process of immersion, the quality of summarizing, cognitive and affective empathy, and the perceived emotional supportive dyadic coping were measured. Results revealed that the speaker's immersion positively predicted the listener's affective empathy. Additionally, in male listeners, the quality of summarizing predicted higher cognitive empathy. Moreover, the more cognitive empathy the listener reported, the more supported the speaker felt. Findings are discussed regarding how to tailor couple interventions more precisely to the specific needs of a couple.

Introduction

Therapeutic and preventive couple interventions have shown to be effective (e.g., Christensen, Atkins, Baucom, & Yi, 2010; Hawkins, Blanchard, Baldwin, & Fawcett, 2008; Shadish & Baldwin, 2003) but its efficacy could still be improved strongly, as only some couples benefit from the interventions (Fawcett, Hawkins, Blanchard, & Carroll, 2010; Snyder & Halford, 2012). One potential starting point to further improve couple interventions is to enlarge the understanding of the underlying mechanisms (Christensen, Baucom, Vu, & Stanton, 2005; Heatherington, Friedlander, Diamond, Escudero, & Pinsof, 2015). A better understanding of how couple interventions work might facilitate to tailor them more specifically to couples' needs. The current study targets this question by examining the underlying mechanisms of the 3-phase method of Bodenmann (2008b) with a process-oriented approach.

3-Phase Method

The 3-phase method is a well validated therapeutically guided communication training delivered in therapeutic and preventive settings (Bodenmann et al., 2008; Bodenmann, Pihet, Shantinath, et al., 2006; Bodenmann & Shantinath, 2004; Ledermann et al., 2007). It aims to improve couples' skills to support each other in times of stress (i.e., dyadic coping skills; Bodenmann, 2008b) in order to reduce the spillover from external stress into the relationship (Story & Repetti, 2006). Strengthening couples' dyadic coping skills is important as dyadic coping has repeatedly been shown to be beneficial for long-term relationship functioning and stability (Bodenmann & Cina, 2005; Falconier et al., 2015; Papp & Witt, 2010).

The 3-phase method has a clear definition of the roles of both partners with one partner being the speaker and the other partner being the listener, and consists of three distinct phases (for a detailed description see Bodenmann, 2008b). In the first phase (20 minutes), the speaker is asked to first briefly describe the factual aspects of a stressful event that happened outside the intimate relationship that is emotionally relevant, and, afterwards, to extensively express his/her stress-related emotions. The therapist supports the speaker with open-ended questions targeting the emotions related with the stressful event (e.g., "How did you feel?", "Please describe your anger in more detail") to enable the speaker to get access to deeper emotional aspects of the stressful event. In the beginning, the speaker often describes secondary emotions such as arousal or anger. With guidance of the therapist, the speaker continues to immerse him-/herself in his/her emotions and gets access to more primary emotions such as sadness or shame, similarly as it is done in emotionally focused couple therapy (EFCT; S. M. Johnson & Greenberg, 1995). This process is called *immersion*. Meanwhile, the listener is asked to summarize the emotional aspects of the speaker's self-disclosure at regular intervals. The aim of this first phase is that both partners get a deeper understanding of the stress of the speaker thereby fostering the listener's empathy. Based on the gained empathy, in the second phase (5 minutes), the listener is asked to provide emotional supportive dyadic coping (e.g., expressing understanding, encouraging the partner). In the third phase (2 minutes), the speaker provides feedback regarding the received dyadic coping. Thus, the theoretically postulated underlying mechanisms of the 3-phase method can be summarized as follows: The immersion of the speaker and the summarizing of the listener in the first phase are thought to enhance the listener's empathy, which, in turn, is thought to be the basis for adequate support provision in the second phase.

Immersion Fostering Empathy

In the first phase of the 3-phase method, the speaker tries to go beyond the factual aspects of the stress and the relatively easily accessible secondary emotions such as anger, and, supported by the therapist, tries to get access to primary stress-related emotions such as sadness or feeling hurt (i.e., immersion; Bodenmann, 2008b). The process of immersion within the first phase of the 3-phase method is supported by an empirical study showing that sadness of the speaker increased significantly within the first phase whereas anger remained stable (Schaer et al., 2007). Through immersion the speaker is thought to get access to the underlying reason for his/her stress what enables the listener to get a more differentiated understanding of his/her partner's stress (Bodenmann, 2008b). This is in line with the systemic transactional model (STM; Bodenmann, 1995, 2005) which proposes that one can only understand the other partner's stress by understanding the stress-related emotions. In contrast, according to the STM, one cannot understand the other partner's stress when only talking about the factual aspects of the stressful event because stress is an individual phenomenon; each person experiences a stressful event differently (i.e., experiences different emotions in the same situation).

The 3-phase method highlights the distinction between primary and secondary emotions. This distinction and the importance of communicating primary emotions for a mutual understanding between the partners has also been highlighted in other fields of research. Getting access to primary emotions is a core aspect of EFCT (S. M. Johnson & Greenberg, 1995) and qualitative and quantitative empirical studies suggest that deeper emotional experiences are important aspects of the therapeutic process in EFCT (for an overview see Benson & Christensen, 2016). Moreover, a non-clinical study suggests that primary emotions such as feeling sad or hurt elicit more positive and understanding reactions from the partner whereas secondary emotions such as feeling angry or aggravated elicit more hostile reactions (Sanford, 2007). Hence, it seems reasonable to assume that immersion of the speaker fosters the listener's empathy towards the speaker's stress.

Many different definitions exist for the concept of empathy (Cuff et al., 2016) with some authors focusing on affective aspects (e.g., Eisenberg & Strayer, 1987) and others focusing on cognitive aspects (e.g., Wispé, 1986). However, many authors now agree to define empathy as a two-dimensional concept including both, cognitive empathy (*knowing* what the other person feels) and affective empathy (feeling what the other person feels; Cuff et al., 2016; Davis, 1983; Duan & Hill, 1996). Regarding the underlying mechanisms of the 3-phase method, it seems likely that immersion foster both aspects of empathy. When the

speaker immerses, he/she starts talking about the real underlying reason of his/her stress. Thus, it seems likely that the listener knows better what his/her partner is feeling the more the speaker immersed (higher cognitive empathy). Additionally, it also seems plausible that immersion fosters affective empathy as communicating primary emotions elicits more tender reactions in the partner (Sanford, 2007).

Summarizing Fostering Empathy

In the first phase of the 3-phase method, the listener is asked to summarize in regular intervals what the speaker said. The rule of summarizing is also part of communication trainings of other couple interventions such as the traditional behavioral couple therapy (Jacobson & Margolin, 1979) or the cognitive behavioral couple therapy (Baucom & Epstein, 1990). However, to the best of our knowledge, it is not investigated yet what summarizing provokes within couple interventions. By summarizing, the listener has to recapitulate the content heard what probably intensifies the conscious processing of the content. This, in turn, might enhance the listener's cognitive understanding of the speaker's feelings (i.e., cognitive empathy). Moreover, summarizing might also increases the listener's affective involvement with the speaker as summarizing makes the listener to listen attentively, enhancing the listener's affective empathy (Bodenmann, 2012).

Empathy as a Prerequisite for Dyadic Coping

The STM (Bodenmann, 1995, 2005) suggests that, for the provision of adequate dyadic coping, one has to understand the partner's stress-related emotions, as only then one understands the real needs of the partner and can provide support that matches these needs. Not only the STM, but also the Optimal Matching Model of Social Support (Cutrona & Russell, 1990) and the Social Support Effectiveness Model (Rini & Dunkel-Schetter, 2010) highlight the importance of matching the needs of the stressed partner in order to provide adequate dyadic coping. Several studies investigated the link between empathy and support provision in intimate relationships based on data of everyday interactions and showed that both affective and cognitive empathy are associated with more dyadic coping (Leuchtmann et al., accepted; Levesque et al., 2014; Verhofstadt et al., 2016). Hence, it seems reasonable to assume that a similar mechanism is present in the 3-phase method. That is, the affective and cognitive empathy that the listener gained within the first phase is likely to be an important prerequisite for providing adequate dyadic coping in the second phase. Adequate dyadic coping in the context of the 3-phase method would mean that the speaker feels emotionally

supported by his/her partner as the speaker expressed emotional aspects of his/her stress (Bodenmann, 1995; Kuhn, Milek, Meuwly, & Bodenmann, in press).

Current Study

The current study investigates the underlying mechanisms of the 3-phase method in a process-oriented study with 33 couples undergoing the 3-phase method with both partners once having the role of the speaker and listener, respectively. We expected that immersion of the speaker and summarizing of the listener during the first phase predicted higher subsequent affective and cognitive empathy of the listener. Further, we proposed that affective and cognitive empathy of the listener predicted emotional supportive dyadic coping as perceived by the speaker. We did not expect gender differences, as no previous empirical evidence is available regarding our hypotheses targeting immersion and summarizing, and empirical evidence regarding gender differences in the association of empathy and dyadic coping is mixed (e.g., Levesque et al., 2014; Verhofstadt et al., 2016).

Method

Participants

Couples were recruited by advertisements on a web page targeting couple interventions, by mailing lists targeting students of various faculties, and by advertisements on online community platforms. To be eligible, couples had to be in a heterosexual relationship for at least one year and must not have previous experience with the 3-phase method. At a first telephone contact, a study member screened couples if they met the inclusion criteria, informed them about the study procedure, and arranged a laboratory session. The sample consisted of 33 heterosexual couples (66 individuals). Couples were between 20 and 45 years old (women: M = 26.2, SD = 5.42; men: M = 29.0, SD = 6.1) and were in their current relationship for M = 3.5 years (SD = 2.5, range: 1-15). Forty-seven percent of the couples lived together, 15% were married, and 14% had children. About 60% of the participants were students (51.5% of men and 66.7% of women), and only 12% of women and 3% of men had a lower education than university degree, indicating a highly educated sample. The average income, however, was relatively low with 49% of men earning less than 40'000 $ and 67% of women earning less than 20'000 $ (Federal Statistical Office, 2015), probably because many participants were students. Couples reported being moderately satisfied in their relationships with a sum score of for men 20.2 (SD = 3.7) and 20.5 for

women (*SD* = 3.9) on a scale ranging from 0 to 27 (assessed by the partnership questionnaire of Hahlweg, 1996). This study was approved by the local ethics committee.

Procedure

Participants were invited to the laboratory, informed about the procedure, and gave their informed consent. Afterwards, they completed questionnaires independently of each other and got an instruction for the 3-phase method (15 minutes). Then, they participated two times in a therapeutically guided couple conversation according to the 3- phase method with each partner having once to role of the speaker and once the role of the listener. The order of the roles was randomly assigned and a short break took place between the two conversations. Each conversation was videotaped and lasted approximately 30 minutes. The most frequently discussed topics were job/education (58.5%), followed by family of origin (15.2%) and leisure time (6.1%). Before and after each conversation participants filled out short questionnaires. After both conversations, participants watched the video of the conversation in which they had the role of the speaker and were instructed to put themselves in the position of being in the conversation again and to relive experienced thoughts and feelings (visualization task). Every 30 seconds the video stopped and participants rated the emotions they experienced within these 30 seconds of the conversation. At the end of the laboratory session, participants were debriefed, thanked, and reimbursed with $ 50 or, alternatively, with credits they needed for their courses of studies.

Measures

Immersion. Immersion was measured by the slope of self-reported sadness of the speaker across the first phase of the conversation. During the visualization task, participants rated their sadness on a 5-point scale (1 = *not at all* to 5 = *very*) every 30 seconds. The first phase of the conversation of the person with the shortest first phase lasted 13 minutes, resulting in 26 ratings of sadness; the longest first phase lasted 28.5 minutes, resulting in 57 ratings of sadness. For estimating each individual's slope of sadness, we estimated multilevel models. To take the nested and dyadic structure of the data into account, we used a multilevel model for dyadic data that treats the three levels of our data (sequences nested within partners nested within couples) as two levels (for more details see Laurenceau & Bolger, 2005; Raudenbush & Bryk, 2002). Thus, Level 1 represents variability within person and Level 2 represents variability between couples. As we were interested in the slope of sadness across the first phase, we examined the effect of time on sadness within each sequence. The predictor time was centered at the first sequence of the first phase such that 0 represents the beginning

of the first phase of the conversation. Following the recommendations of Barr, Levy, Scheepers, & Tily (2013), we included random intercepts and random slopes for time. We used the lme4 (Bates, Maechler, Bolker, & Walker, 2015) package for multilevel modeling in R (R Core Team, 2014).

Results of this model showed that fixed effects of time were significant for men (B = 0.007, SE = 0.003, p = .036) but not for women (B = 0.006, SE = 0.004, p = .187). Thus, on average, sadness significantly increased across time in men but not in women. However, random effects of time indicated that the slopes of time varied between individuals with a standard deviation of SD = 0.02 in men and SD = 0.02 in women, indicating differences in the slopes of sadness between individuals. We extracted the individual slopes of time representing an individual's immersion. Additionally, we extracted the individual intercepts to control for its effects as individual intercepts and slopes were correlated with r = .15 in men and r = −.41 in women.

Quality of summarizing. The quality of summarizing of the listener was coded by trained research assistants. For each summary, they coded (a) if the summary was complete or if relevant content was missing and (b) if either the therapist or the speaker needed to correct the summary or not. The proportion of complete summaries without corrections was used as an indicator for the quality of summarizing of the listener. Assuring high standard coding, two research assistants were trained in coding the quality of summaries (approximately 25 hours of training). At the end of the training period, Cohen's kappa indicated acceptable interrater-reliability (κ = .84). Two videos could not be coded as two couples wanted to delete their videos right after the laboratory session. Therefore, the analysis including the variable quality of summarizing are based on data of 31 couples.

Affective and cognitive empathy. Affective empathy of the listener (*feeling* what the other person feels) was assessed by a single item. Directly after the conversation, the listener rated the item *"The strain of my partner affects me"* on a 5-point scale ranging from 1 = *not at all* to 5 = *very*. Cognitive empathy of the listener (*knowing* what the partner feels) was measured by 4 items (*"I know how my partner feels", "I can hardly understand, how my partner feels" (recoded), "I can describe how my partner feels", "I understand how my partner feels"*), rated by the listener on a 5-point scale ranging from 1 = *not at all* to 5 = *very* directly after the conversation. Internal consistency reliability was good with α = .82 for men and α = .80 for women.

The items were newly created for this study as they needed to be adjusted specifically to the specific situation within the 3-phase method. To test if the items measure two different

aspects of empathy, we tested with a confirmatory factor analysis if the items build the two assumed dimensions of empathy. The four items of cognitive empathy were modeled to load on one factor and the item of affective empathy was modeled to load on a second factor. The two factors were allowed to correlate, the error variances were not allowed to correlate. The model indicated adequate model fit in men ($\chi^2(5) = 5.50$, $p = .358$; CFI = .988; RMSEA = .055) and women ($\chi^2(5) = 4.70$, $p = .454$; CFI = 1.000; RMSEA = .000), the standardized factor loadings ranged between .54 – 1.00 in men and .48 – 1.00 in women, the correlation of the two factors was $r = .03$ in men and $r = .12$ in women.

Perceived emotional supportive dyadic coping (PESDC). Perceived emotional supportive dyadic coping was measured by a state version of the emotional supportive dyadic coping subscale of the Dyadic Coping Inventory (DCI; Bodenmann, 2008a; Gmelch et al., 2008; Randall, Hilpert, Jimenez-Arista, Walsh, & Bodenmann, 2016). The speaker rated 4 items (*"I felt that my partner understood me"*, *"I felt emotionally supported by my partner"*, *"In the conversation with my partner I felt comfortable"*, *"My partner gave me the feeling that he/she understands me"*) on a 5-point scale ranging from 1 = *not at all* to 5 = *very* directly after the conversation. Internal consistency reliability was good with $\alpha = .80$ for men and $\alpha = .82$ for women.

Statistical Analyses

We expected that immersion and quality of summarizing predict affective and cognitive empathy, and expected that affective and cognitive empathy predict PESDC. To test these hypotheses, we calculated three actor-partner interdependence models (APIM; Kenny, Kashy, & Cook, 2006), one model predicting affective empathy, one model predicting cognitive empathy, and one model predicting PESDC (see Figure 4). We estimated three distinct models in order to reduce model complexity. The APIM accounts for the interdependency between men and women in dyadic data and enables to estimate actor effects (e.g., effect of female predictor on female outcome) and partner effects (e.g., effect of female predictor on male outcome; Kenny et al., 2006).

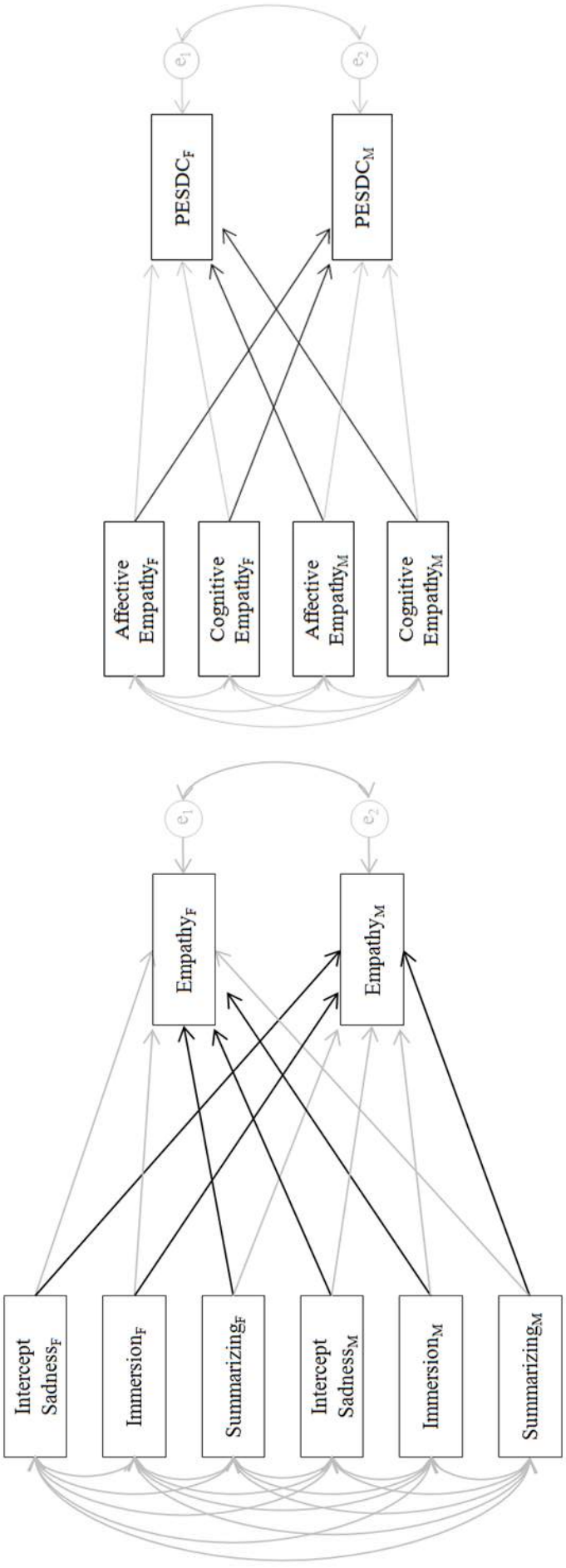

Figure 4. APIMs predicting affective and cognitive empathy, respectively (left), and APIM predicting perceived supportive dyadic coping (right). The variables $Empathy_F$ and $Empathy_M$ represent affective and cognitive empathy, respectively. Summarizing = quality of summarizing; PESDC = perceived emotional supportive dyadic coping. F = Females; M = Males.

As we expected no gender differences, we tested whether equivalent paths were equal across genders. Whenever the comparison of the restricted model with the non-restricted model resulted in a non-significant chi-square discrepancy test and the comparative fit index (CFI; Bentler, 1990) and the root mean square error of approximation (RMSEA; Browne & Cudeck, 1993) of the restricted model indicated adequate model fit, we continued with the restricted model. For the final models, we report multiple fit indices to indicate the degree to which the tested model fits the sample data: the traditional chi square discrepancy test, the RMSEA, and the CFI. A non-significant chi-square discrepancy test, values of the RMSEA $\leq$ .05, and values of the CFI $\geq$ .95 indicate a good representation of the data. Model estimations were conducted using Mplus 7 (Muthén & Muthén, 1998-2015).

Results

Descriptive Statistics

Means, standard deviations, and correlations among all study variables are presented in Table 1. Men and women only differed in their intercept of sadness: Women reported significantly more sadness at the beginning of the first phase of the conversation (M = 2.52, SD = 0.80) compared to men (M = 1.94, SD = 0.66; $t(32) = -3.96$, $p < .001$). In line with our hypotheses, women's immersion correlated positively with men's affective empathy. The association between men's immersion and women's affective empathy was positive too, although not significant. In contrast to our expectations, men and women's immersion did not correlate with the other partner's cognitive empathy. Regarding the quality of summarizing, only men's quality of summarizing was positively associated with their cognitive empathy. Finally, men and women both perceived more emotional supportive dyadic coping when their partner had higher cognitive empathy whereas no association was found between affective empathy and PESDC.

Table 1

Intercorrelations, Means, and Standard Deviations of All Study Variables

	Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1.	Intercept Sadness$_F$												
2.	Intercept Sadness$_M$	.37*											
3.	Immersion$_F$	−.37*	−.18										
4.	Immersion$_M$	.45**	.32†	−.15									
5.	Summarizing$_F$	−.16	−.07	.39*	.20								
6.	Summarizing$_M$	.14	−.03	.04	.09	.11							
7.	Affective Empathy$_F$	.08	.36*	.03	.13	.03	.12						
8.	Affective Empathy$_M$	−.07	.00	.38*	−.00	−.07	.28	.23					
9.	Cognitive Empathy$_F$	−.12	−.28	.10	−.21	−.01	.29	.12	.24				
10.	Cognitive Empathy$_M$	.00	−.03	−.03	.09	−.10	.46**	−.05	−.00	.43*			
11.	PESDC$_F$	.10	−.11	.19	.17	.35†	.36*	.21	.12	.32†	.43*		
12.	PESDC$_M$	−.03	−.31†	−.26	.11	.05	.36†	−.05	−.15	.42*	.45**	.32†	
M		2.52	1.94	.01	.01	.23	.19	3.91	3.82	4.28	4.24	4.10	4.25
SD		0.80	0.66	0.21	0.14	0.10	0.12	0.98	0.88	0.51	0.55	0.68	0.60

Note. Summarizing = quality of summarizing; PESDC = perceived emotional supportive dyadic coping. F = Females; M = Males. Mean differences between genders were only significant or marginally significant for Intercept Sadness ($t(32) = -3.96$, $p < .001$).

† $p < .10$. * $p < .05$. ** $p < .01$. (two-tailed).

Immersion and Summarizing Predicting Affective and Cognitive Empathy

We hypothesized that immersion and the quality of summarizing would predict affective and cognitive empathy (see Table 2). Results of the APIM predicting affective empathy suggest that in total, 18% variance of men's affective empathy and 20% variance of women's affective empathy was explained by immersion and quality of summarizing. In line with our hypotheses, men and women's immersion predicted their partner's affective empathy. That is, the stronger men and women's immersion, the more affective empathy their partner reported. In contrast, the quality of summarizing did not predict affective empathy.

Results of the APIM predicting cognitive empathy suggest that immersion and quality of summarizing explained 22% variance of men's cognitive empathy and 18% variance of women's cognitive empathy. In line with our hypotheses, men's quality of summarizing predicted men's cognitive empathy. Thus, when men were better able to summarize their female partner's emotional stress expression, they understood their female partner's feelings better. However, this effect was not present in women. Contrary to our expectations, immersion did not predict cognitive empathy.

Table 2

Actor-Partner Interdependence Model Results Predicting Affective and Cognitive Empathy

	Affective Empathy *B* (*SE*)		Cognitive Empathy *B* (*SE*)	
Predictors	Males	Females	Males	Females
Intercept Sadness$_M$	−0.01 (0.16)[a]	**0.45 (0.26)**[*]	0.05 (0.08)[e]	**−0.25 (0.11)**[*]
Intercept Sadness$_F$	−0.03 (0.20)	−0.01 (0.16)[a]	−0.01 (0.10)	0.05 (0.08)[e]
Immersion$_M$	4.43 (7.20)[b]	**16.75 (6.87)** [**c]	−3.57 (3.31)[f]	−3.73 (3.30)[g]
Immersion$_F$	**16.75 (6.87)** [**c]	4.43 (7.20)[b]	−3.73 (3.30)[g]	−3.57 (3.31)[f]
Summarizing$_M$	−1.92 (1.44)	1.31 (0.98)[d]	**1.60 (0.59)**[***]	0.46 (0.48)[h]
Summarizing$_F$	1.31 (0.98)[d]	0.60 (1.41)	0.46 (0.48)[h]	0.35 (0.74)
Model Fit				
χ^2(df)	4.28 (4)		4.32 (4)	
CFI	.952		.955	
RMSEA	.047		.050	

Note. *N* = 31 couples. Paths with same letters are constrained to equality. Summarizing = quality of summarizing. F = Females; M = Males.

[*] $p < .05$. [**] $p < .01$. [***] $p < .001$. (one-tailed).

Predicting Perceived Emotional Supportive Dyadic Coping

We further tested weather affective and cognitive empathy predicted PESDC (see Table 3). The estimated model explained 30% variance of men's PESDC and 27% variance of women's PESDC. In line with our predictions, cognitive empathy of both partners predicted PESDC of the other partner. Thus, when men and women understood their partner's feelings better, their partner felt more emotionally supported. In contrast, affective empathy did not predict PESDC, neither in men, nor in women.

Table 3

Actor-Partner Interdependence Model Results Predicting Perceived Emotional Supportive Dyadic Coping

	PESDC *B* (*SE*)	
Predictors	Males	Females
Affective Empathy$_M$	−0.16 (0.10)	−0.00 (0.07)[a]
Affective Empathy$_F$	−0.00 (0.07)[a]	0.15 (0.10)
Cognitive Empathy$_M$	**0.27 (0.14)**[*b]	**0.44 (0.14)**[***c]
Cognitive Empathy$_F$	**0.44 (0.14)**[***c]	**0.27 (0.14)**[*b]
Model Fit		
χ^2(df)	0.40 (3)	
CFI	1.000	
RMSEA	.000	

Note. *N* = 33 couples. Paths with same letters are constrained to equality. PESDC = Perceived emotional supportive dyadic coping. F = Females; M = Males.

[*] $p < .05$. [**] $p < .01$. [***] $p < .001$. (one-tailed).

Discussion

This study examined the underlying mechanisms of the 3-phase method with a process-oriented approach (Bodenmann, 2008b). More specifically, this study investigated weather immersion of the speaker and summarizing of the listener during the first phase of the 3-phase method predict subsequent affective and cognitive empathy of the listener and weather affective and cognitive empathy of the listener is a prerequisite for adequate dyadic coping in so far that the speaker feels emotionally supported. All predicted mechanisms were partially supported.

Our hypothesis that immersion predicts empathy was supported for affective empathy but not for cognitive empathy. The stronger the speaker immersed the more affective empathy the listener reported, irrespective of the gender of the speaker and listener. This finding is in line with the theoretical assumption of the STM suggesting that one needs to know the

underlying emotions of one's partner's stress to understand his/her stressful experience (Bodenmann, 1995, 2005) and it is also consistent with empirical findings highlighting the importance of primary emotions in couple's discussions (Benson & Christensen, 2016; Sanford, 2007). As the effect of immersion (slope of sadness of the speaker across the first phase) was found after controlling for initial sadness, it seems to be the *process* of getting access to the primary emotion sadness that plays a crucial role. Thus, getting gradually access to sadness seems to be particularly important. One reason why specifically the process of immersion seems to be important for affective empathy might be that the listener can follow the immersion process more easily when the speaker gradually immerses. The association between immersion and affective empathy indicates that the listener gets more intensively emotionally affected within the 3-phase method the more the speaker gets access to primary emotions. Thus, immersion seems to be a way to foster an emotional connection within a couple. Immersion might therefore be a therapeutic technique that is particularly useful for couples reporting emotional distance or in situations when a mutual understanding on an emotional level is missing.

In contrast, immersion of the speaker was not associated with cognitive empathy of the listener; thus, immersion seems to specifically affect affective empathy (*feeling* what the other partner feels) but not the cognitive understanding of the other partner's feelings. It might be that when the speaker immerses strongly, the listener hears many new stress-related emotions he/she has not known before, what might confuse the listener at first. It might need some more time until the listener can fully integrate and understand the newly gained knowledge about the partner and his/her emotions. Another plausible explanation for the non-finding regarding the effect of immersion on cognitive empathy is that cognitive empathy might more strongly depend on how the speaker verbally expresses his/her primary feelings. That is, when the speaker *feels* to immerse strongly (the primary emotion sadness becomes more intense) this does not necessarily entail that the speaker also *communicates* the primary emotions in a comprehensive and explicit way. The listener might got emotionally affected because he/she felt the other partner's emotional arousal but for a cognitive understanding of the other partner's feelings it might be more important how the speaker communicates his/her feelings. Therefore it might be a promising starting point for future research to investigate facets of the speaker's communication as predictor for cognitive empathy. It seems plausible, for example, that increases in explicit communication of primary emotions foster the listener's cognitive empathy (about the difference of explicit and implicit communication see also Pagani et al., 2015).

We further postulated that summarizing predicts empathy of the listener. Regarding cognitive empathy, this effect was supported for men but not for women. That is, the better men summarized in the first phase of the 3-phase method what the women said the more cognitive empathy they reported. Thus, summarizing seems to enhance men's cognitive understanding of their female partner's feelings. A practical application of this finding might be to train men in their ability to summarize in a complete and non-interpreting way, in case they have difficulties to understand their partner's feelings. The effect of summarizing on cognitive empathy was not found in women. That is, women's cognitive empathy seems to be independent of the quality of their summaries. When interpreting this result it has to be kept in mind that cognitive empathy was measured by means of self-report. Thus, women *felt* to understand their partner's feelings independently of their quality of summaries. It might be that women are more self-confident when rating their empathic abilities, what would be in line with studies showing that women report higher levels of empathy than men (e.g., Davis & Oathout, 1987; O'Brien, Konrath, Gruhn, & Hagen, 2013). They maybe rated their cognitive empathy more strongly based on a general feeling to understand their partner's feelings but less strongly based on their actual ability to provide good summaries.

Summarizing did not predict affective empathy, neither in men nor in women. This indicates that the quality of the summaries did not affect how strongly a partner was emotionally affected. However, based on the current results we cannot conclude whether the process of summarizing in regular intervals (independently of the quality of the summaries) affects affective empathy. To know that one needs to summarize what one has heard might support the partners to carefully listen to the other partner what might foster the emotional involvement. To test this idea one needed to compare conversations with and without the rule of summarizing.

Finally, we postulated that affective and cognitive empathy are positively associated with emotional supportive dyadic coping as perceived by the partner. This hypothesis was supported for cognitive empathy but not for affective empathy. That is, the higher the cognitive empathy of the listener the more emotionally supported the speaker felt, irrespective of the speaker and listener's gender. Thus, to understand one's partner's stress-related feelings – specifically his/her primary stress-related emotions – seems to be related with more perceived emotional supportive dyadic coping. This finding is consistent with previous results in non-therapeutic contexts showing that cognitive empathy is a prerequisite dyadic coping (Leuchtmann et al., accepted; Verhofstadt et al., 2016). Moreover, it supports the theoretical

assumption of the STM that one needs to understand one's partner's stress-related emotions for providing adequate support (Bodenmann, 1995).

In contrast, affective empathy was not related with emotional supportive dyadic coping which is inconsistent with previous empirical results in non-therapeutic contexts (Levesque et al., 2014; Verhofstadt et al., 2016). One possible explanation for the non-findings of affective empathy on emotional supportive dyadic coping in the current study might be that the association between affective empathy and emotional supportive dyadic coping is curvilinear; affective empathy might matter only up to a certain threshold. Given that in the context of the 3-phase method, the focus of the conversation is strongly on the stress-related emotions and not on the factual aspects of the stress as it is often the case in daily support interactions (Kuhn et al., in press) the necessary threshold of affective empathy might has been reached by most listeners.

Limitation and Strengths

Several limitations have to be mentioned. First, the sample size is rather small what limits the generalizability of the findings. Second, couples met the therapist the first time when participating at the study. Thus, the setting was similar to early sessions in couple therapy or sessions in preventive interventions what might reduce the comparability with sessions in more progressed couple therapies (e.g., couples with more training might show stronger immersion). Third, although the measures were targeting mechanisms at different time points within the 3-phase method, the estimated effects are still correlative what makes it impossible to draw causal conclusion.

Besides these limitations, this study has a number of strengths. First, the investigated mechanisms were measured with different methods (i.e., visualization task for continuous ratings of self-reported sadness, observational coding of quality of summaries, self-reported empathy, partner-reported emotional supportive dyadic coping) what minimizes the inflation of effects due to shared-methods variance (Podsakoff, MacKenzie, & Podsakoff, 2012). Second, by measuring various specific mechanisms within the 3-phase intervention we were able to provide a process-oriented analysis of the 3-phase method. Third, the dyadic data structure allowed to test for partner effects and to control for the interdependence between the partners.

Conclusion

The current study enlarges the knowledge about the underlying mechanisms of the 3-phase method and provides starting points to adjust the application of the 3-phase method to the specific needs of a couple. Focusing on immersion seems to be specifically relevant when a couple feels emotionally detached whereas training the quality of summarizing seems to be particularly relevant for men's cognitive understanding of their partner's feelings. In addition, reaching a cognitive understanding of the other partner's feelings seems to be important for being able to provide adequate support. Moreover, the examined mechanisms may also inspire process research of other couple interventions where similar mechanisms play a role (e.g., immersion in EFCT or summarizing in cognitive behavioral couple therapy).

Study 2

Role of Clarity of Other's Feelings for Dyadic Coping

This manuscript was accepted for publication in Personal Relationships at 17th July 2017:
Leuchtmann, L., Zemp, M., Milek, A., Nussbeck, F. W., Brandstätter, V., & Bodenmann, G. (2018). Role of clarity of other's feelings for dyadic coping. *Personal Relationships*. doi: 10.1111/pere.12226

7. Study 2: Role of Clarity of Other's Feelings for Dyadic Coping

Abstract

Dyadic coping has repeatedly been associated with positive outcomes in intimate relationships. However, less is known about the prospective predictors of dyadic coping. The current study investigates clarity of other's feelings (CoF) as a potential predictor of supportive dyadic coping in a longitudinal study. In a sample of 368 couples, self-reported CoF and supportive dyadic coping perceived by the partner were assessed annually over three years. Results revealed that interpersonal differences in men and women's CoF are positively associated with interpersonal differences in supportive dyadic coping. Moreover, interpersonal differences in men's CoF predicted long-term intrapersonal changes in supportive dyadic coping of both partners. Couple intervention programs might strengthen couple's dyadic coping skills by targeting men's understanding of their partner's feelings.

Introduction

Past research has shown that dyadic coping is a characteristic of well functioning intimate relationships (Bodenmann & Cina, 2005). Given that relationship functioning tends to erode over time (M. D. Johnson et al., 2016; Kamp Dush et al., 2008) it is crucial to understand how couples can sustain good relationship functioning in the long-run (e.g., maintaining high levels of dyadic coping). The current study targets this question by investigating *clarity of other's feelings* (herein after referred as "CoF") as one potential key predictor for long-term support provision in intimate relationships.

Clarity of Other's Feelings (CoF)

CoF is defined as the emotional competency of knowing how other people feel and naming these feelings (Lischetzke et al., 2012). It can be classified as a cognitive component of empathy. As CoF specifically focuses on the cognitive understanding of other people's feelings (Lischetzke et al., 2001), it is distinct from *perspective taking* (another cognitive component of empathy) which captures the behavioral tendency to adopt the perspective of others. CoF was adapted from the analogous construct *clarity of one's own feelings*, which is a specific facet of broader emotional competency constructs related to one's own feelings (e.g., emotional intelligence; Salovey et al., 1995). Thus, CoF establishes a link between intrapersonal and interpersonal emotional competency constructs. Past research investigating CoF has mainly focused on individual outcomes and has shown that CoF is positively associated with subjective well-being across different cultures (Lischetzke et al., 2012). The

current study aims to expand on these previous results by investigating CoF as a predictor for an adaptive *inter*personal outcome. More specifically, we propose that people with higher CoF provide better support in times of stress (such as that their partners feel more supported), as they are better able to understand their partner's feelings.

Dyadic Coping

A widely investigated concept of support in intimate relationships is dyadic coping (Bodenmann, 1995, 2005). Dyadic coping refers to the way partners support each other in stressful times and jointly deal with daily stressors (Bodenmann, 2005). It captures how partners communicate about their stress (i.e., stress communication), how they respond to one another's stress signals (i.e., supportive dyadic coping), and how they cope together with common adversities (i.e., common dyadic coping). In the current paper we focus on supportive dyadic coping. Supportive dyadic coping refers to emotion-oriented as well as problem-oriented supportive behaviors, such as helping one's partner to calm down, reappraising the situation, or analyzing the problem (Bodenmann, 2005). Supportive dyadic coping has repeatedly been linked to long-term relationship functioning and stability (Bodenmann & Cina, 2005; Falconier et al., 2015; Papp & Witt, 2010). However, less is known about skills which enable a partner to provide supportive dyadic coping, i.e., support which the stressed partner perceives as helpful. Given that supportive dyadic coping erodes across time (M. D. Johnson et al., 2016), it seems to be crucial to investigate what enables couples to maintain high levels of supportive dyadic coping in the long-run.

Clarity of Other People's Feelings as a Predictor of Supportive Dyadic Coping

The Systemic Transactional Model (STM; Bodenmann, 1995) suggests that for providing supportive dyadic coping one needs an emotional understanding of the partner's stress. More specifically, the STM proposes that one can only provide appropriate supportive dyadic coping matching the real needs of the stressed partner when understanding the partner's emotions elicited by the stressful experience (for example, whether problem-oriented or emotion-oriented supportive dyadic coping is appropriate; Bodenmann & Randall, 2012). In contrast, according to the STM, a partner can hardly provide adequate supportive dyadic coping when only understanding the situational and factual aspects of the partner's stress (e.g., knowing what happened). Not only the STM (Bodenmann, 1995), but also the Optimal Matching Model of Social Support by Cutrona and Russell (1990), and the Social Support Effectiveness Model by Rini and Dunkel-Schetter (2010) highlight the importance of matching the needs of the support seeker in order to provide effective support. Hence, the

quality of support as it is perceived by the support-receiver seems to be particularly important (see also Schwarzer & Knoll, 2007). In sum, theoretical frameworks suggest that correctly identifying other people's feelings (in this instance, one's partner's feelings) is a fundamental prerequisite for providing supportive dyadic coping that the partner perceives as helpful. Thus, CoF might be a competency which enables couples to provide supportive dyadic coping.

Recent studies examining closely related constructs provide first evidence for the theoretically proposed link between CoF and provision of supportive dyadic coping. They showed that sympathizing with other people's feelings (i.e., empathic concern) and the dispositional behavioral tendency to adopt the other person's perspective (i.e., perspective taking) are positively associated with support provision (Levesque et al., 2014; Verhofstadt et al., 2016). Moreover, accurately understanding one's partners feelings in a specific conversation goes along with better support provision within the same conversation (Howland, 2016; Verhofstadt et al., 2016, 2008) and accurately understanding one's partners feelings on a given day is associated with better support provision on that day (Howland, 2016).

These studies were all based on cross-sectional data or focused on specific conversations measuring situational processes in the laboratory. Hence, it remains unclear whether CoF is a prospective predictor of supportive dyadic coping, operating as a resource for good support provision across a longer period of time. When investigating longitudinal data, one can distinguish between *inter*personal differences and *intra*personal changes. As investigations of interpersonal and intrapersonal aspects can lead to different conclusions (Hamaker, Kuiper, & Grasman, 2015), the untangling of the two different sources of variance (within- and between-person) is crucially important (Curran & Bauer, 2011). When focusing on long-term development (over several years), CoF is theoretically conceptualized as a trait-like behavioral tendency (Lischetzke et al., 2001; Salovey et al., 1995), whereas supportive dyadic coping is a relationship behavior that decreases over time, as longitudinal couple research suggests (M. D. Johnson et al., 2016). Hence, an intriguing question is whether interpersonal differences in CoF are a long-term predictor of intrapersonal changes in supportive dyadic coping. More specifically, individuals with higher CoF might be better able to maintain high levels of supportive dyadic coping in the long run compared to individuals with lower CoF.

The Current Study

The current study investigates the association between CoF and supportive dyadic coping in a longitudinal study with 368 couples. We focus on the partner's perception of supportive dyadic coping as the main outcome, because the quality of support as it is perceived by the support-receiver seems to be particularly important. Both constructs were assessed by means of questionnaires annually over three years (T1, T2, and T3). Our first hypothesis was that interpersonal differences in partner A's CoF are positively associated with interpersonal differences in his/her supportive dyadic coping as perceived by partner B. Second, we expected that interpersonal differences in CoF prospectively predict intrapersonal changes in supportive dyadic coping as perceived by the other partner such that individuals with higher CoF are better able to maintain high levels of supportive dyadic coping in the long-run. Given that empirical evidence on gender differences in the association of CoF and supportive behaviors in couples is sparse and mixed (e.g., Verhofstadt et al., 2016), we did not have any specific expectations regarding gender effects in the present study.

Method

Participants

Couples were recruited by advertisements in newspapers and on the radio. To be eligible, couples had to be in their current relationship for at least one year. The final sample consisted of 368 heterosexual Swiss couples. Couples were aged between 20 to 80 years with a mean age of M = 47.3 for women (SD = 18.4) and M = 49.3 for men (SD = 18.3). Their average relationship duration was 21.2 years (SD = 18.2, range: 1-60). The majority of the couples (66%) were married, 85% of them lived together, and 65% of them had children. Two percent of the women finished primary school (six years), 4% finished the mandatory school period (nine years), 41% completed vocational training, 21% finished high-school, and 32% had a Bachelor's degree or higher. In men, 1% finished primary school, 2% finished mandatory school period, 35% completed vocational training, 13% completed high-school, and 49% had a Bachelor's degree or higher. Almost half of the participants earned between 21'000 and 80'000 Swiss francs per year (approximately between $21'580 and $82'210; women: 49%, men: 40%), 43% of the women and 12% of the men earned less, and 8% of the women and 48% of the men earned more, what indicates a middle-class sample (Federal Statistical Office, 2015). On average, couples reported being highly satisfied in their relationships with a mean value of M = 4.33 (SD = 0.50) for women and M = 4.37 (SD = 0.49)

for men on a 5-point scale (assessed by the German version of the Relationship Assessment Scale; Hendrick, 1988; Sander & Boecker, 1993).

Of the original sample of 368 couples, 300 couples participated at T2, and 250 couples participated at T3. Couples dropped out because of separation/divorce (30 couples), widowhood (3 couples) or because they did not want to or were not able to further participate in the study (85 couples). Dropouts did not differ from couples who still participated at T3 in respect to any of the target variables, age, relationship duration, or relationship satisfaction at T1. However, couples that dropped out had a lower education than couples that still participated at T3 (women: $U = –2.78$, $p = .005$; men: $U = –2.63$, $p = .009$) and men that dropped out earned less money than men that still participated at T3 ($U = –2.02$, $p = .043$). This study was approved by the local ethics committee. The current dataset has already been used in other publications (e.g., Zemp, Bodenmann, Backes, Sutter-Stickel, & Revenson, 2016), but the current results do not overlap with these published results.

Procedure

Participants were contacted by telephone, were informed about the procedure of the study, and invited to the laboratory. In the laboratory, participants gave their informed consent. Afterwards, they completed questionnaires in separate rooms and participated in three videotaped interaction tasks. In the current study, only data from the questionnaires were used. At the end of the first laboratory session (T1), participants were debriefed and received 100 Swiss francs (approximately $103) as incentives for participation. Subsequently, participants were invited to the laboratory again one and two years later. At the subsequent measurement points (T2 and T3), the same procedure took place as at the first measurement point, but reimbursement increased to 120 Swiss francs (T2; approximately $123) and 130 Swiss francs (T3; approximately $134).

Measures

Clarity of other's feelings (CoF). CoF was measured by four items of the longer (six item) scale assessing CoF by Lischetzke et al. (2001). The shortened scale was used to keep the subject burden as small as possible[6]. Participants were asked to rate the items on a 4-point frequency scale (1 = *almost never*, 4 = *almost always*). The following four items were used: "*I know what other people feel*", "*It is difficult for me to describe other people's feelings*" (recoded), "*It is difficult for me to name other people's feelings*" (recoded), "*I am not sure about what other people actually feel*" (recoded). Past studies have demonstrated high reliability and validity of this measure in different samples (Lischetzke & Eid, 2003; Lischetzke et al., 2001). In the current study, internal consistencies for T1, T2, and T3 were α = .76/.74/.75 for women and α = .84/.82/.80 for men, respectively.

Supportive dyadic coping perceived by the partner (SDCP). Supportive dyadic coping was measured using the Dyadic Coping Inventory (DCI; Bodenmann, 2008a). The DCI assesses different forms of dyadic coping (e.g., supportive dyadic coping, delegated dyadic coping) as perceived by oneself and as perceived by one's partner. In the current study, we used only the subscale measuring supportive dyadic coping as perceived by one's partner (e.g., "*My partner shows empathy and understanding*"). This subscale consists of five items, which were rated on a 5-point frequency scale (1 = *very rarely*, 5 = *very often*). Various studies across different cultures have demonstrated high reliability and good validity (e.g., Gmelch et al., 2008; Randall et al., 2016). In the current study, internal consistencies for T1, T2, and T3 were α = .81/.85/.82 for women and α = .80/.83/.84 for men, respectively.

[6] At the first measurement point of the study (T1), the original scale for measuring CoF was used. To reduce the subject burden for the following measurement points, many scales used in the original questionnaire were shortened at T2 and T3 (as was the scale measuring CoF). Items were selected based on the discriminatory power of the items at T1. As the current study included values of CoF from T1, T2, and T3, we used the shortened scale due to comparability of the scales across the measurement points.

Statistical Analyses

The goal of this study was to examine whether *inter*personal differences in CoF predict (1) interpersonal differences in SDCP and (2) prospective intrapersonal changes in SDCP. To test these research questions, we estimated a latent-growth curve model incorporating dyadic data analysis procedures to account for the interdependency between the partners of a couple (Kenny et al., 2006), predicting each partner's individual intercept and slope of SDCP by interpersonal differences in CoF (see Figure 5; Preacher, Wichman, MacCallum, & Briggs, 2008). To solely include interpersonal differences in CoF as predictor, a person's individual mean of CoF across all available measurement points was used (CoF_{mean}; Curran & Bauer, 2011). As we did not expect gender differences, we assessed whether equivalent effects of CoF_{mean} on the intercept and slope of SDCP were equal across genders (e.g., the effect of women's CoF_{mean} on men's intercept of SDCP was set equal to the effect of men's CoF_{mean} on women's intercept of SDCP) using a chi-square discrepancy test. Although there was no difference between couples that dropped out from those that participated in all three waves with respect to the study variables pointing at missing at random mechanism, we added auxiliary variables[7] to the model in order to apply the full information maximum likelihood (FIML) estimator (Howard, Rhemtulla, & Little, 2015).

We report multiple fit indices: the traditional chi square discrepancy test, the relative chi square index (X2/df; Schermelleh-Engel, Moosbrugger, & Müller, 2003), the root mean square error of approximation (RMSEA; Browne & Cudeck, 1993), and the comparative fit index (CFI; Bentler, 1990). Values of the relative chi square index of $X^2/df < 3$, values of the RMSEA $\leq .05$ and values of the CFI $\geq .95$ indicate a good representation of the data. Model estimations were conducted using Mplus 7 (Muthén & Muthén, 1998-2015).

[7] Auxiliary variables were chosen based on the recommendations of Howard, Rhemtulla, & Little (2015). That is, all variables measured in this project (more than 1000 variables) were included in a principal component analysis with the *quark* function form the R-package *semTools* (version 0.4-6). The principal component analysis extracted 26 variables, explaining 40% of the variance of the original 1000 variables. These 26 variables were included as auxiliary variables.

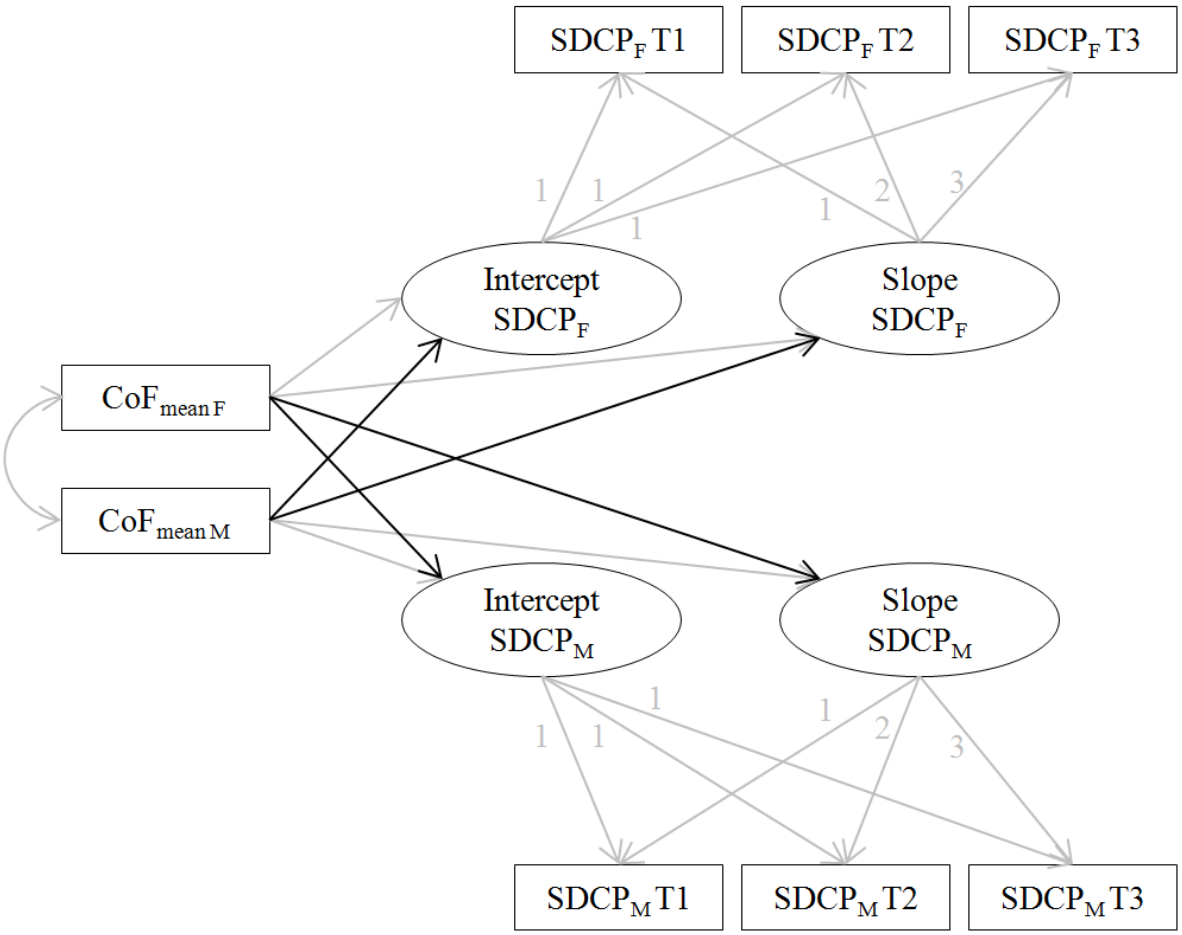

Figure 5. Latent growth curve model: Individual mean of clarity of other's feelings across all available measurement points (CoF_{mean}) predicting individual intercepts and slopes of supportive dyadic coping perceived by the partner (SDCP) across three measurement points (T1, T2, T3). F = Females; M = Males. Solid black lines represent paths predicted in the hypotheses. Latent intercepts and slopes of men and women, and residuals of men and women's SDCP T1, SDCP T2, and SDCP T3, respectively, are allowed to correlate but are not displayed due to readability.

Results

Descriptive Statistics

Means, standard deviations, and correlations among all study variables are presented in Table 4. Men and women differed significantly in all study variables on all measurement occasions with the exception of supportive dyadic coping of the partner (SDCP) at T2. Women reported higher CoF (T1 $t(366) = 5.19$, $p < .001$; T2 $t(296) = 6.17$, $p < .001$; T3 $t(249) = 3.89$, $p < .001$) and men reported to receive more SDCP (T1 $t(366) = –3.38$, $p = .001$; T3 $t(249) = –2.73$, $p = .007$). Corresponding variables of men and women were correlated, indicating interdependencies between the partners. As expected, men's CoF was persistently associated with the amount of supportive dyadic coping their partners reported to receive from them, within and across measurement points. In contrast, the associations between women's CoF and the amount of supportive dyadic coping their partner reported to receive from them was only associated twice (women's CoF T1 and T3 were positively associated with men's SDCP T1; $r = .12$, $p = .020$; $r = .13$, $p = .046$, respectively).

Interpersonal Differences in CoF predicting SDCP

We predicted that individuals reporting higher CoF compared to other individuals are (1) perceived by their partners as being higher in supportive dyadic coping and (2) are better able to maintain supportive dyadic coping in the long run. For testing these predictions, a latent-growth curve model was estimated (see Figure 5). Before estimating the final model, we tested whether equivalent effects were equal across genders. The non-significant chi-square discrepancy test indicated that effects of CoF_{mean} on the intercept of SDCP were equal across genders. However, equivalent effects of CoF_{mean} on the slope of SDCP could not be set equal across genders without a substantial loss in model fit, indicating that the effects of CoF_{mean} on the slope of SDCP differed across genders. The final model provided excellent fit to the data ($\chi^2(10) = 15.41$, $p = .118$; $\chi^2/df = 1.54$; RMSEA = .038; CFI = .994).

Table 4

Intercorrelations, Means, and Standard Deviations of All Study Variables

	Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1.	CoF $T1_F$												
2.	SDCP $T1_F$	.06											
3.	CoF $T1_M$	.20***	.20***										
4.	SDCP $T1_M$	.12*	.32***	.05									
5.	CoF $T2_F$	.55***	.04	.16**	.03								
6.	SDCP $T2_F$	.07	.75***	.25***	.27***	.06							
7.	CoF $T2_M$	.17**	.26***	.70***	.02	.20**	.32***						
8.	SDCP $T2_M$	.10	.21***	.05	.68***	.06	.28***	.07					
9.	CoF $T3_F$	.66***	.08	.19**	.13*	.63***	.10	.15*	.07				
10.	SDCP $T3_F$	.05	.71***	.25***	.27***	.09	.74***	.29***	.25***	.03			
11.	CoF $T3_M$	.18**	.20**	.69***	.06	.19**	.25***	.76***	.07	.16*	.27***		
12.	SDCP $T3_M$	.12	.17**	.12	.55***	.10	.28***	.14*	.72***	.10	.26***	.13*	
M		3.07	3.60	2.88	3.76	3.13	3.66	2.88	3.72	3.05	3.57	2.87	3.72
SD		0.48	0.79	0.60	0.68	0.45	0.79	0.59	0.70	0.49	0.78	0.59	0.73

Note. SDCP = Supportive dyadic coping perceived by the partner; CoF = Clarity of other's feelings. T1 = Time 1; T2 = Time 2; T3 = Time 3. F = Females; M = Males. All differences between genders reached significance with the exception of SDCP T2.

* $p < .05$. ** $p < .01$. *** $p < .001$ (two-tailed).

Results of the final latent growth curve model are summarized in Table 5. In line with our first hypothesis, men and women's CoF_{mean} was positively associated with the intercept of SDCP as reported by the partner (b = 0.28, SE = 0.05, p < .001). Thus, individuals with higher CoF compared to individuals with lower CoF were perceived as more supportive by their partners.

Table 5

Results of the Latent Growth Curve Model

	Unstandardized Estimate	*SE*	*p*	95% CI
Latent Variables				
Intercept $SDCP_F$	**2.75**	**0.24**	**<.001**	**[2.28, 3.14]**
Intercept $SDCP_M$	**2.84**	**0.24**	**<.001**	**[2.37, 3.23]**
Slope $SDCP_F$	–0.10	0.15	.502	[–0.38, 0.14]
Slope $SDCP_M$	–0.22	0.16	.172	[–0.54, 0.05]
Covariances				
$CoF_{mean\ F}$ ↔ $CoF_{mean\ M}$	**.05**	**.01**	**<.001**	**[0.02, 0.07]**
Intercept $SDCP_F$ ↔ Slope $SDCP_F$	–.05	.03	.094	[–0.10, 0.01]
Intercept $SDCP_M$ ↔ Slope $SDCP_M$	–.02	.02	.398	[–0.07, 0.03]
Intercept $SDCP_F$ ↔ Intercept $SDCP_M$	**.17**	**.04**	**<.001**	**[0.09, 0.24]**
Slope $SDCP_F$ ↔ Slope $SDCP_M$	.03	.02	.091	[–0.00, 0.06]
Intercept $SDCP_F$ ↔ Slope $SDCP_M$	–.04	.02	.064	[–0.08, – 0.00]
Intercept $SDCP_M$ ↔ Slope $SDCP_F$	–.01	.02	.641	[–0.05, 0.03]
Path Coefficients				
$CoF_{mean\ F}$ → Intercept $SDCP_F$	.02	.05	.659	[–0.08, 0.13]
$CoF_{mean\ F}$ → Slope $SDCP_F$	–.05	.04	.273	[–0.13, 0.04]
$CoF_{mean\ F}$ → Intercept $SDCP_M$	**.28**	**.05**	**<.001**	**[0.17, 0.38]**
$CoF_{mean\ F}$ → Slope $SDCP_M$	–.02	.05	.710	[–0.11, 0.07]
$CoF_{mean\ M}$ → Intercept $SDCP_M$	.02	.05	.659	[–0.08, 0.13]
$CoF_{mean\ M}$ → Slope $SDCP_M$	**.08**	**.04**	**.027**	**[0.01, 0.15]**
$CoF_{mean\ M}$ → Intercept $SDCP_F$	**.28**	**.05**	**<.001**	**[0.17, 0.38]**
$CoF_{mean\ M}$ → Slope $SDCP_F$	**.08**	**.03**	**.019**	**[0.01, 0.15]**

Note. CoF_{mean} = individual mean of clarity of other's feelings across all available measurement points; SDCP = supportive dyadic coping perceived by the partner. F = Females; M = Males. Significant values are bold.

In line with our second hypothesis, men's CoF_{mean} was positively associated with the slope of SDCP as reported by their female partners (b = 0.08, SE = 0.03, p = .019) indicating that interpersonal differences in men's CoF predicted intrapersonal changes in their supportive dyadic coping as perceived by their female partners. Additionally, men's CoF_{mean} positively predicted the slope of SDCP as reported by men (b = 0.08, SE = 0.04, p = .027). Thus, higher CoF in men predicted men and women's intrapersonal changes in supportive dyadic coping across two years. In contrast, women's CoF_{mean} did not predict the slope of SDCP as reported by men (b = –0.02, SE = 0.05, p = .710). In sum, interpersonal differences in men's CoF (but not in women's CoF) predicted the long-term development of SDCP of both partners.

Discussion

Prior theories postulate that knowing what one's partner feels enhances the capability to provide adequate supportive dyadic coping (Bodenmann, 1995). Based on these theoretical assumptions, the current study aimed to investigate whether interpersonal differences in CoF are positively associated with interpersonal differences in supportive dyadic coping and whether interpersonal differences in CoF predict intrapersonal changes in supportive dyadic coping in the long-run. The expected cross-sectional effects were supported for men and women. Individuals with higher CoF were perceived as more supportive by their partner compared to individuals with lower CoF. The longitudinal effects were supported for men, but not for women. That is, men who reported to know what other people feel were better able to maintain high levels of supportive dyadic coping as perceived by their partners across two years compared to men with lower CoF. Moreover, men with higher CoF also perceived their female partners as being better able to remain supportive across time.

These results support the theoretical assumption that understanding one's partner's feelings is an important prerequisite for dyadic coping (Bodenmann, 1995). Men's CoF did predict the long-term development of their own supportive dyadic coping as perceived by their female partners, what is a similar effect that previous studies have shown in cross-sectional data (e.g., Verhofstadt et al., 2016). Moreover, men's CoF did also predict long-term intrapersonal changes of their female partner's supportive dyadic coping. Such partner effects have also been reported by Levesque and colleagues (2014). One reason for the partner effect of men's CoF on the long-term development of women's supportive dyadic coping might be that men with higher CoF are also more competent in understanding and expressing their *own* feelings (Lischetzke et al., 2001) resulting in a more explicit expression of their stress-related emotions. That, in turn, might facilitate their female partners to maintain high levels of supportive dyadic coping in the long-run. In sum, men’s CoF seems to be one factor that affects the long-term development of a couple’s supportive dyadic coping in a positive way. Given that supportive dyadic coping, on average, erodes across time (M. D. Johnson et al., 2016) men’s CoF might be one factor that helps couples to maintain high relationship functioning in the long-run. The current results therefore expand on previous results and suggest that interpersonal differences in men's CoF are not only associated with concurrent supportive dyadic coping but seem to be also a crucial resource for maintaining adequate supportive dyadic coping across a longer period of time.

In contrast, interpersonal differences in women's CoF did not predict changes in supportive dyadic coping across time. Women with higher CoF were perceived as more

supportive by their male partners than women with lower CoF; however, women's CoF did not affect the long-term development of supportive dyadic coping. The non-significant findings in women are in line with some previous findings (e.g., Verhofstadt et al., 2016). However, they differ from other past studies that did not report any gender differences (e.g., Levesque et al., 2014). One potential explanation for the gender differences in the current study is that they are driven by a statistical reason; they might be due to a ceiling effect in women's CoF. Consistent with prior findings (O'Brien et al., 2013), women had a higher mean level and smaller variance in CoF than men. These ceiling effects make it less likely that paths coefficients reach statistical significance. Since the longitudinal effects were much smaller than the cross-sectional associations, this ceiling effect might have stronger consequences for the longitudinal effect. Related to this explanation, it could also be that the association between CoF and supportive dyadic coping is non-linear, i.e., it may be that CoF matters only up to a certain threshold (which might be achieved by most women) and higher CoF does not bring any additional benefit. However, post-hoc examinations of the association between CoF and supportive dyadic coping provided no evidence for quadratic trends but suggested that the association is a linear one, at least for the women in our sample.

Practical Implications

The current study suggests that when men have higher CoF compared to other men, their female partners and the men themselves feel more supported in the long run. Thus, one factor which fosters the quality of support in intimate relationships is men's understanding of other people's feelings. Couple interventions should therefore target men's emotional understanding of their female partner's feelings. This could be implemented by training couples to talk not only about factual and problem-oriented aspects but also about the feelings associated with the discussed topic. In the context of stressful experiences, for example, couples should learn to tell each other not only what happened ("My boss did criticize me in an unfair way") but also expressing their feelings associated with the stressful experience ("At first, I was very angry. Now I also feel very sad"). This issue is targeted in different relationship education programs, such as the Couples Coping Enhancement Training (Bodenmann & Shantinath, 2004), emotionally focused couple therapy (S. M. Johnson, 2004), or the Couple CARE program (Halford, Moore, Wilson, Farrugia, & Dyer, 2004). Exercises to enlarge the vocabulary of emotion words might further enable couples to name their feelings appropriately.

Limitations and Strengths

Several limitations have to be mentioned. First, CoF targeted clarity of feelings of other people in general and was therefore not specific to one's partner's feelings or specific to particular feelings (e.g., positive vs. negative feelings). As CoF might differ across interaction partners (Long & Andrews, 1990) and might differ depending on the type of feelings (Gadassi et al., 2011), this might have influenced the results. Most likely, spouses are able to read the feelings of their intimate partners even better than feelings of other people. Moreover, as supportive dyadic coping is a relationship specific variable whereas CoF is non-specific to one's partner, the current study might even underestimate the effect of CoF on supportive dyadic coping. Regarding the type of feelings, it could be suspected that reading negative feelings might be more important for supportive dyadic coping than reading positive feelings. Hence, replication studies might benefit from differentiating between CoF in general and clarity of one's partner's feelings as well as from differentiation between different types of feelings. Second, this study investigated CoF by means of self-report. Self-report measures of CoF rarely correlate with measures trying to capture the ability to accurately read other's feelings (Ickes, 1993), indicating that they capture distinct constructs. However, both have been shown to predict supportive behavior (Verhofstadt et al., 2016) suggesting that they predict similar outcomes. Future studies might disentangle the distinct effects of self-report and ability measures by comparing self-report measures with ability measures such as the subscale *perceiving emotions* of the Mayer-Salovey-Caruso Emotional Intelligence Test (Mayer, Salovey, Caruso, & Sitarenios, 2003) or the empathic accuracy paradigm (Ickes & Hodges, 2013). Third, supportive dyadic coping was measured by means of partner report, which seems to be a particularly important aspect of dyadic coping (see also Schwarzer & Knoll, 2007). However, dyadic coping as perceived by the partner seems to be somewhat distinct from actual supportive behaviors (e.g., Lemay & Clark, 2015). Hence, more research is needed to clarify the effects of CoF on the various aspects of dyadic coping. Fourth, there are potential moderators in the link between CoF and dyadic coping, which were not taken into account in the current study. For instance, one's motivation to provide supportive dyadic coping might moderate the influence of CoF on dyadic coping (Winczewski et al., 2016). Moreover, the support seeker's stress communication (e.g., how explicit he/she discloses stress-related emotions) might affect the dyadic coping process. Future studies should target these possible moderators.

Besides these limitations, the current study has several strengths: First, CoF was measured by self-report and supportive dyadic coping was measured by partner-report. This

allows investigating partner effects and minimizes effects that stem from common variance due to shared-methods. Second, by investigating longitudinal data, we were able to investigate interpersonal differences in CoF as a predictor for long-term intrapersonal changes in supportive dyadic coping, which, to the best of our knowledge, has not been done so far (e.g., Verhofstadt et al., 2016). And third, although couples reported relatively high levels of relationship satisfaction and were relatively well-educated, this study is based on a large and heterogeneous sample in respect to relationship duration and age, enhancing the generalizability of the current findings.

Conclusion

The current study suggests that individuals who report having higher clarity of other people's feelings than other individuals are perceived as more supportive by their partners. Moreover, when the male partner has higher clarity of other people's feelings compared to other men, couples seem to be better able to maintain supportive dyadic coping in the long run. This supports the theoretical assumption that individual's knowledge about other's feelings is beneficial for their interpersonal skills to regulate these feelings in others and highlights the importance of understanding the other partner's feelings for dyadic coping skills among couples.

Study 3

Temporal Trajectories of Couples' Negative Communication in Conflict Discussions: A Longitudinal Analysis

This manuscript is in revision in the Journal of Social and Personal Relationships:
Leuchtmann, L., Milek, A., Bernecker, K., Nussbeck, F. W., Backes, S., Martin, M., Zemp, M., Brandstätter, V., & Bodenmann, G. (under review). *Temporal trajectories of couples' negative communication in conflict discussions: A longitudinal analysis*.

8. Study 3: Temporal Trajectories of Couples' Negative Communication in Conflict Discussions: A Longitudinal Analysis

Abstract

Negative conflict communication predicts long-term relationship satisfaction. However, some studies show harmful effects and others show beneficial effects of negative conflict communication on long-term relationship satisfaction. One reason for the heterogeneous results might be that most studies focused on aggregated behaviors across a conflict interaction but neglected the temporal dynamics. This study examined the temporal trajectory of negative communication within couple's conflict discussion. We examined whether individual temporal trajectories of negative communication predict long-term relationship satisfaction, and whether participants having stronger clarity of other's feelings are better able to down-regulate negative communication across the course of a conflict discussion. Negative communication was measured based on sequentially coded conflict discussions of 365 couples; clarity of other's feelings and relationship satisfaction were measured by self-report questionnaires at baseline and at four annual follow-up assessments. Results revealed that individual's initial negative communication and their trajectories of negative communication independently predicted the intercept of relationship satisfaction. In contrast, they did not predict change in relationship satisfaction over time. Additionally, men having stronger clarity of other's feelings showed higher decreases in negative communication. The current study highlights the relevance of dynamic aspects of partners' communication behaviors and suggests implications for couple interventions.

Introduction

How couples settle their conflicts is a strong predictor of relationship functioning. Behaviors observed in conflict interactions are robustly associated with relationship satisfaction (M. D. Johnson et al., 2005; Markman et al., 2010; Woodin, 2011) and predict long-term relationship stability (Lavner & Bradbury, 2012). Many studies suggest that more negativity and less positivity are associated with worse relationship outcomes (M. D. Johnson et al., 2005; Lavner & Bradbury, 2012; Woodin, 2011). However, recent studies indicate that negative communication in conflict discussions can also be beneficial in the long run (Karney & Bradbury, 1997; McNulty & Russell, 2010; Overall et al., 2009). One reason for these heterogeneous results might be that, to date, most studies have focused on aggregated behaviors across a conflict interaction (M. D. Johnson et al., 2005; Markman et al., 2010) and

widely neglected temporal trajectories. Negative behaviors are, however, most likely not equally distributed across the whole conflict interaction but unfold over time (Gottman, 1994) and couples differ in these temporal trajectories (Bloch et al., 2014; Carstensen et al., 1995; Gottman et al., 1998). The current study aims to target the variability in the temporal trajectories of negative behavior in couples' conflict discussion and investigates (1) whether this variability has consequences for couples' long-term relationship satisfaction, and (2) whether individual characteristics can predict this variability. We propose that empathic skills, more specifically clarity of other's feelings (CoF) might play a crucial role.

Temporal Trajectories of Negative Communication in Conflict Discussions

A key feature of conflict discussions in couples are the temporal trajectories of negativity, over and above its general level of negativity; that is, regardless of the sheer level of negativity some couples might solve their conflicts more quickly than others who are entrapped in escalating conflicts. According to Gottman (1994), conflict interactions can be divided into three phases: The first phase represents the agenda-building phase in which couples set-up the topic and present their points of view and feelings. In the second phase, the arguing phase, partners start trying to persuade one another by criticizing each other or defending their own position. The arguing phase is, for some couples, accompanied with negative emotions. Nevertheless, partners can try to reduce negativity in the course of the arguing phase by de-escalating strategies such as humor, distraction, or becoming aware of common ground. In the third phase, the negotiation phase, couples ideally try to compromise and to find a solution or, if not possible, continue their argument with counterproposals. Hence, according to this model, negative communication is likely to unfold over time and the temporal trajectories of negativity vary between couples.

Temporal Trajectories of Negative Communication and Relationship Satisfaction

The average level of negative communication in conflict discussions has been shown to predict long-term relationship satisfaction (M. D. Johnson et al., 2005), but the *temporal trajectory* of negative communication is also likely to be a significant predictor of long-term relationship satisfaction. While the average of negative communication captures the overall negativity across a whole conflict discussion, the temporal trajectory indicates how communication unfolds across a given conflict discussion. Using the temporal trajectory of negative communication as a predictor allows for the possibility that the effect of negative communication differs depending on how the conflict discussion *develops*. On the one hand, if negative communication primarily appears in the beginning of a conflict discussion, but

fades out towards the end, the partners experience that they are able to down-regulate their conflicts and find a solution. In the long run, this may contribute to higher levels of relationship satisfaction. On the other hand, if negative communication remains stable during the whole conflict or even increases towards the end of a conflict discussion the partners likely feel insufficiently capable in solving their conflicts. They probably break up their argument unresolved and with high behavioral and emotional negativity.

There are a few previous studies investigating the temporal dynamics of negative communication in couple discussions. Early studies by Gottman and colleagues showed that satisfied and stable couples are better able to down-regulate their negativity by interrupting the cascades of negative behavior than dissatisfied couples (Carstensen et al., 1995; Gottman et al., 1998). Recent studies support these results by indicating that a greater ability to interrupt cascades of negative behavior predict long-term relationship satisfaction (Bloch et al., 2014). However, these studies did not differentiate if the down-regulation of negativity took place in the beginning or in the end of a conflict interaction. Given that other studies suggest that satisfied couples have intensive negative conflicts, too (Gottman, 1993) and negative communication can be beneficial for long-term relationship functioning (Karney & Bradbury, 1997; McNulty & Russell, 2010; Overall et al., 2009), it remains an open question whether the down-regulation of negativity is beneficial per se. The down-regulation of negativity might not be important in the beginning of an argument but gets more important across the course of a conflict discussion. That is, more satisfied couples might initially show equal levels of negative communication compared to less satisfied couples but they might be better able to down-regulate their negativity in the course of the argument. The couple's capability of decreasing negativity rather than avoiding conflicts at the outset might be crucial for couple bonding and maintaining high relationship satisfaction over time.

Predictors of Temporal Trajectories of Negative Couple Communication

Couples vary in their temporal trajectories of negative communication in conflict discussion (Gottman, 1994) but little is known about individual characteristics that account for this variability. A recent study showed that people with less avoidance orientation towards goals within their romantic relationship showed a stronger decline in their likelihood of negative communication during the course of a conflict discussion (Kuster et al., 2015). However, besides this study, findings on which individual characteristics alter temporal trajectories of negative communication are rare. Given that couples differ in their temporal trajectories of negative communication (Gottman, 1994) and given that previous studies

suggest that temporal dynamics of negative communication are associated with relationship satisfaction (Bloch et al., 2014; Carstensen et al., 1995), it seems important to continue this line of research. We propose that clarity of other's feelings (CoF) may play a central role.

CoF is the emotional competency of knowing how other people feel and naming these feelings (Lischetzke et al., 2012). It can be classified as a cognitive component of empathy (Lischetzke et al., 2001). CoF is distinct from the related construct of perspective taking as it does not entail the personal disposition to adopt the perspective of others but focuses specifically on the cognitive understanding of other people's feelings (Lischetzke et al., 2001). CoF was adapted from the analogous construct *clarity of one's own feelings* which is a specific facet of broader constructs capturing emotional competency concerning one's own feelings, i.e., (e.g., emotional intelligence; Salovey et al., 1995; emotional awareness; Swinkels & Giuliano, 1995). Hence, CoF creates a linkage between interpersonal and intrapersonal emotional competency constructs.

CoF might affect a partner's ability to alter the temporal trajectory of negative communication in conflict discussions successfully, i.e., in a de-escalating manner. Past research examining closely related constructs supports this assumption. A more accurate understanding of one's partner's feelings within a specific conversation (i.e., empathic accuracy) was found to be associated with less destructive and aggressive (Cohen et al., 2015) but more constructive and conciliatory reactions to destructive partner behavior (Kilpatrick et al., 2002). Moreover, the dispositional behavioral tendency to adopt the other person's perspective (i.e., perspective taking) goes along with a more yielding and less fighting conflict style (Rizkalla et al., 2008). Thus, cognitive components of empathy seem to covary with fewer escalating and more de-escalating conflict interactions. However, in these previous studies, the communication outcome variables were all measured by means of questionnaires. Hence, it remains unclear whether cognitive empathy alters only the perceived conflict communication or also the actual behavior as assessed by observational data.

The Current Study

In the current study we examined the variability in the temporal trajectories of negative communication in conflict discussions of couples and tested two hypotheses. First, we proposed that the temporal trajectory of negative communication, more specifically, the down-regulation of negative communication across the course of a conflict discussion, predicts relationship satisfaction across 4 years (H1). Second, we expected that partners higher in CoF show a more de-escalating communication pattern, that is, show stronger declines in negative communication across the conflict discussion (H2).

Method

Participants

The current study used data from a larger research project investigating the impact of stress on intimate relationships. Couples were recruited by advertisements in newspapers and on the radio. To be eligible, couples had to be in their current relationship for at least one year. The sample initially consisted of 368 heterosexual Swiss couples at the first occasion of measurement. From three couples we did not have observational data (one couple refused to participate in the interaction task, one couple wanted to delete their video after the task, and one video is missing due to technical problems). Thus, the final sample consisted of 365 couples at first assessment. Couples were between 20 and 80 years old with a mean age of M = 47.2 for women (SD = 18.3) and M = 49.3 for men (SD = 18.3). On average, they were in their current relationship for M = 21.2 years (SD = 18.1, range: 1-60). Sixty-six percent of the couples were married, 85% lived together, and 65% had children. Participant's level of education and income indicate that the current sample is a middle-class sample (for detailed sample description see Kuster et al., 2015).

Of the sample of 365 couples at time 1 (T1), 298 couples participated at time 2 (T2), 248 couples at time 3 (T3), 223 couples at time 4 (T4), and 218 couples at time 5 (T5). Couples dropped out because of separation/divorce (42 couples), widowhood (6 couples) or because they did not want to or were not able to participate anymore (99 couples). Couples that dropped out differed from couples who still participated at T5 with respect to the occurrence rate of negative communication in the conflict discussion at T1; dropouts showed higher rates of negative communication (women: $t(363) = –2.18$, $p = .030$; men: $t(363) = –2.25$, $p = .025$). Additionally, dropouts had a lower education than couples that still participated at T5 (women: $U = –2.79$, $p = .005$; men: $U = –2.11$, $p = .035$) and women that still participated at T5 had a lower income at T1 ($U = –2.34$, $p = .019$). Dropouts did not differ

from couples who still participated at T5 in any other target variables, control variables, age, or relationship duration at T1. This study was approved by the local ethics committee. The current dataset has already been used in other publications (e.g., Kuster et al., 2015). The present article is the only one which targets long-term effects of conflict communication on relationship satisfaction and the effect of CoF on conflict communication. Consequently, the current results do not overlap with these previous results.

Procedure

Participants were invited to the laboratory, were informed about the procedure and provided informed consent. Afterwards, they completed questionnaires in separate rooms and participated in three videotaped interaction tasks of eight minutes duration each, (i.e., at first, in a conflict discussion, afterwards in two support interactions that are not relevant for the present research question). At the end of T1, participants were reimbursed with 100 CHF (approximately 100 USD). Participants were invited to the laboratory again annually across the next 4 years (T2, T3, T4, T5). At the following measurement points, the same procedure took place as at T1, but reimbursement increased by 10 CHF (approximately 10 USD) each year.

Measures

Relationship Satisfaction. Relationship satisfaction was measured by the German version of the Relationship Assessment Scale (RAS; Hendrick, 1988; Sander & Boecker, 1993). Both partners rated seven items on a 5-point scale with various verbal anchors depending on the content of the items (e.g., "How often do you wish you had not gotten into this relationship?" (reversely coded)). In the current study, we used data measured at T1, T2, T3, T4, and T5; internal consistencies for men and women at all five measurement points were acceptable, ranging from Cronbach's $\alpha = .84$ to $\alpha = .89$.

Negative Communication Behavior. In order to assess couples' negative communication behavior, we relied on the videotaped conflict interaction task from T1. In this conflict task, the two partners first rated their degree of stress in 13 potential areas of problems (e.g., communication, finances, children, sexuality) within their relationship (PAQ A; Heavey, Christensen, & Malamuth, 1995) on a 4-point scale (1 = *undemanding* to 4 = *very demanding*). They could also name additional topics. Afterwards, the two partners agreed upon the topic to be discussed during the following 8 minutes while being videotaped. The most frequently discussed topic were communication problems with the partner ($n = 54$, 14.7%), followed by annoying habits of the partner ($n = 43$, 11.7%), and finances ($n = 38$,

10.4%). The average demand-level of the selected topic (topic severity) was *M* = 2.63 (*SD* = 0.70).

The negative communication behavior partners displayed during this conversation was coded based on an adapted version of the Specific Affective Coding System (SPAFF; Bodenmann, 2011; Gottman, 1994). This coding system consists of different categories regarding verbal negative communication (i.e., criticism, defensiveness, domineering, stonewalling, interruption, contempt, and belligerence). We used sequence coding cutting the videotaped interactions into 48 sequences, 10 seconds each. In each sequence, research assistants coded if negative behavior occurred (= 1) or not (= 0). As the occurrence rates of the different subcategories of negative communication were too low to be examined separately (average occurrence rates ranged between 0.03 - 2.94 sequences), we computed a composite score combining all negative subcategories. Given that the occurrence rate of negative communication in the first sequence was remarkably lower (5.5%) compared to all other sequences (ranging between 12.9 - 22.5%) and the video visualization depicted that many couples were not talking yet about their conflict topic but got accustomed to the situation, we excluded the first sequence.

Assuring high standard behavioral coding, two research assistants were trained in coding the observed negative communication behavior (at least 60 hours practice) and, at the end of the training period, showed satisfactory interrater-reliability (Cohen's $\kappa = .90$). Subsequently, the two research assistants coded all video-taped conflict interactions simultaneously, one focusing on the man, the other focusing on the woman.

Clarity of Other's Feelings (CoF). CoF was measured by a questionnaire of Lischetzke et al. (2001) containing six items such as "I know what other people feel", rated on a 4-point frequency scale (1 = *almost never*, 4 = *almost always*). Past studies have shown high reliability and validity of this measure in different samples (Lischetzke & Eid, 2003; Lischetzke et al., 2001). In the current study, we used data collected at T1, internal consistencies were $\alpha = .81$ for women and $\alpha = .88$ for men, respectively.

Statistical Analyses

In our first hypothesis, we were interested in whether the temporal trajectory of negative communication during a conflict discussion predicts long-term relationship satisfaction. To measure the temporal trajectory of each partner's negative communication, we examined the effect of time on the probability of showing negative communication behavior within each sequence measured at T1 (probability of negative communication in the

remainder of the manuscript). The dataset of the observational data theoretically consisted of 365 (couples) × 2 (partners) × 47 (sequences) = 34'310 data points with 153 data points missing (0.45%) resulting in a final dataset consisting of 34'157 data points. To take the nested and dyadic structure of the data into account, we used a multilevel model for dyadic data that treats the three levels of our data (sequences nested within partners nested within couples) as two levels (for more details see Laurenceau & Bolger, 2005; Raudenbush & Bryk, 2002). Thus, Level 1 represents variability due to within person repeated measures and Level 2 represents variability between couples. As negative communication was coded as a binary variable (0 = no negative communication present, 1 = negative communication present), we used a generalized mixed linear model with a logit link function, using the adaptive Gauss-Hermite quadrature approximation with an optimization of the random and fixed-effects coefficients in the penalized iteratively reweighted least squares step (see Raudenbush & Bryk, 2002).

As we were interested in the temporal trajectory of negative communication, we examined the effect of time on the probability of negative communication within each sequence. For making the statistical analysis more interpretable (Bolger & Laurenceau, 2013), the time variable was centered such that Time = 0 represents the beginning of the conversation. Following the recommendations of Barr, Levy, Scheepers, and Tily (2013), we included random intercepts and random slopes for time. We tested for linear and quadratic time trends. As the quadratic time trends were not significant (men: $b = 0.0002$, $SE = 0.0003$, $p = .518$, women: $b = -0.0003$, $SE = 0.0002$, $p = .176$) we did not include them in the further analyses. We used the lme4 (Bates et al., 2015) package for multilevel modeling in R (R Core Team, 2014). Equations 1.1 to 1.6 represent the estimated model.

$$\ln\left(\frac{p_{Mij}}{1-p_{Mij}}\right) = \beta_{0jM} + \beta_{1jM}(Time_{ij}) + e_{ij} \quad (1.1)$$

$$\ln\left(\frac{p_{Fij}}{1-p_{Fij}}\right) = \beta_{0jF} + \beta_{1jF}(Time_{ij}) + e_{ij} \quad (1.2)$$

$$\beta_{0jM} = \gamma_{00M} + u_{0jM} \quad (1.3)$$

$$\beta_{0jF} = \gamma_{00F} + u_{0jF} \quad (1.4)$$

$$\beta_{1jM} = \gamma_{10M} + u_{1jM} \quad (1.5)$$

$$\beta_{1jF} = \gamma_{10F} + u_{1jF} \quad (1.6)$$

Results of this model showed that fixed effects of time were significant for women (b = −0.009, SE = 0.003, p = .002) but not for men (b = −0.005, SE = 0.003, p = .113) indicating a significant decrease in the average probability of negative communication across time for women but not for men. Random effects of time indicated that the slopes of time varied between individuals with a standard deviation of SD = 0.04 in men and SD = 0.03 in women indicating that individuals differ in their trajectories. Fixed effects of intercepts were on average b = −2.93 (SE = 0.12) in men and b = −2.54 (SE = 0.10) in women and varied between individuals with a standard deviation of SD = 1.77 in men and SD = 1.42 in women. We extracted the individual intercepts and individual slopes of time representing an individual's intercept and temporal trajectory of his/her own negative communication, respectively. Because of the high interdependency between men and women in the individual intercepts (r = .72) and slopes (r = .58), respectively, we computed the mean value between the male and female partner representing a couple's intercept (I_NegCom) and temporal trajectory (S_NegCom) of negativity in the conflict discussion, respectively.

We then estimated a latent-growth curve model incorporating dyadic data analysis procedures to account for the interdependency between the partners of a couple (Kenny et al., 2006), predicting each partner's individual intercept and slope of relationship satisfaction across the five measurement points by the intercept and slope of negative communication within the conflict discussion (see Figure 6; Preacher et al., 2008). We included relationship duration as a control variable to consider the fact that the current sample was quite heterogeneous with regards to relationship duration. Couples that dropped out differed from those that still participated at T5 with respect to negative communication, income, and education pointing at a missing at random mechanism (MAR). To account for these differences, we included income and education as auxiliary variables and applied full information maximum likelihood (FIML) estimation in order to get unbiased estimates (Enders, 2001). Model estimations were conducted using Mplus 7 (Muthén & Muthén, 1998-2015).

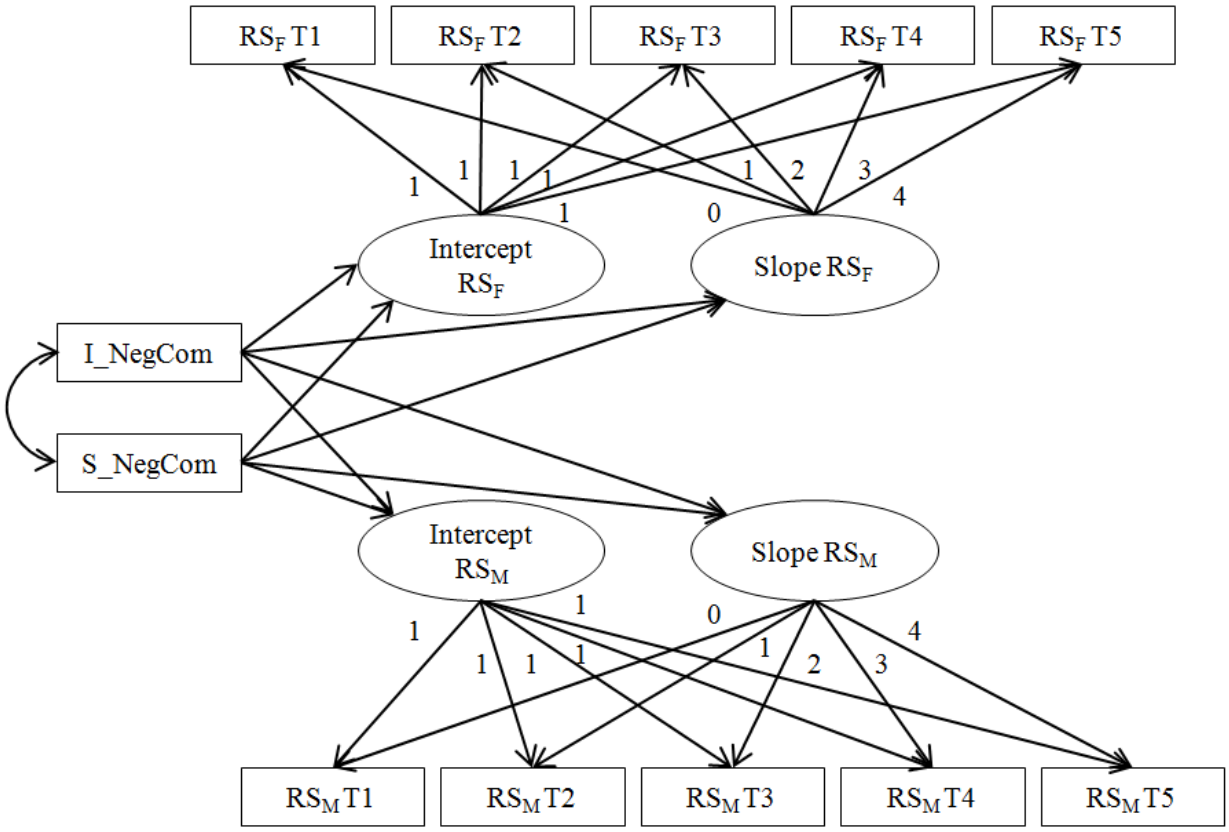

Figure 6. Latent growth-curve model: Intercept and slope of couple's negative communication in the conflict discussion at T1 predicting individual intercepts and slopes of relationship satisfaction across five measurement points (T1, T2, T3, T4, T5). F = Females; M = Males; RS = Relationship satisfaction. Residuals of the latent intercepts and slopes of men and women, and residuals of men and women's RS at T1 through RS T5, respectively, are allowed to correlate within the measurement occasion. These correlations are not displayed for the sake of clarity of presentation. For the same reason, the control variable relationship duration is not depicted.

In our second hypothesis, we were interested in whether CoF accounts for variability in the temporal trajectories of negative communication. Thus, we used the same multilevel model as described above but included the effects of Time, CoF, and the cross-level interaction of Time × CoF on the probability of negative communication within a specific sequence as predictors. To rule out that the effects of CoF were driven by relationship satisfaction or relationship duration, we additionally included their main effects and their interaction effects with Time. Before running the analyses, we adapted the predictor variables as follows: Time was centered as described above, CoF was grand-mean centered separately for men and women by subtracting the mean of CoF across men (or women, respectively) from each male (or female) partner's raw score (Bolger & Laurenceau, 2013; Raudenbush & Bryk, 2002).

Results

Descriptive Statistics

Descriptive statistics and correlations of all study variables are presented in Table 6. On average, women showed negative communication in $M = 4.77$ sequences out of 47 sequences ($SD = 5.75$; range 0 – 37) and men in $M = 4.48$ sequences ($SD = 6.24$; range 0 – 40). Men and women did not differ significantly in the number of sequences in which they showed negative communication ($t(364) = 0.97$, $p = .335$). However, women reported higher CoF ($t(363) = 5.85$, $p < .001$) and men reported significantly higher relationship satisfaction than women at all measurement points but T3 (T1: $t(364) = -2.24$, $p = .025$; T2: $t(297) = -2.42$, $p = .016$; T3: $t(247) = -1.65$, $p = .101$; T4: $t(218) = -3.16$, $p = .002$; T5: $t(217) = -3.00$, $p = .003$). The number of sequences with negative communication was negatively associated with relationship satisfaction at T1 and T2 for men and women; however, only in women the number of sequences of negative communication was negatively associated with relationship satisfaction at T3, T4, and T5. The significant correlations between men and women in all study variables indicated that the interdependency within a couple had to be taken into account in all further analyses.

Table 6

Intercorrelations, Means, and Standard Deviations of All Study Variables

	Variable	Correlations							Women		Men	
		1	2	3	4	5	6	7	*M* (*SD*)	Range	*M* (*SD*)	Range
1	CoF T1	*.20****	.02	.12*	.10	.12	.08	.07	3.06 (0.45) [1]	1.50 – 4.00	2.86 (0.55) [1]	1.00 – 4.00
2	Negative communication T1	−.10	*.55****	−.32***	−.27***	−.24***	−.24***	−.31***	4.77 (5.75)	0.00 – 37.00	4.48 (6.24)	0.00 – 40.00
3	Relationship satisfaction T1	.13*	−.22***	*.60****	.79***	.77***	.69***	.68***	4.33 (0.50) [1]	2.29 – 5.00	4.38 (0.47) [1]	2.43 – 5.00
4	Relationship satisfaction T2	.09	−.14*	.79***	*.60****	.77***	.74***	.70***	4.34 (0.53) [1]	1.29 – 5.00	4.40 (0.47) [1]	2.57 – 5.00
5	Relationship satisfaction T3	.10	−.08	.75***	.78***	*.56****	.76***	.76***	4.32 (0.54)	2.43 – 5.00	4.37 (0.51)	2.14 – 5.00
6	Relationship satisfaction T4	.10	−.09	.73***	.70***	.79***	*.64****	.80***	4.28 (0.60) [1]	2.00 – 5.00	4.38 (0.48) [1]	2.43 – 5.00
7	Relationship satisfaction T5	.08	−.02	.67***	.66***	.72***	.79***	*.62****	4.29 (0.59) [1]	1.86 – 5.00	4.39 (0.50) [1]	2.29 – 5.00

Note. CoF = Clarity of other's feelings. Negative communication = occurrence rate of negative communication. T1 = Time 1; T2 = Time 2; T3 = Time 3; T4 = Time 4; T5 = Time 5. Correlations of women are presented above the main diagonal, correlations of men are presented below the main diagonal, correlations between men and women are displayed in italics in the main diagonal. [1]Mean differences between men and women are significant.

* $p < .05$. *** $p < .001$ (two-tailed).

Temporal Trajectory of Negative Communication and Long-Term Relationship Satisfaction

In our first hypothesis we proposed that greater down-regulation of negative communication across the course of the conflict discussion would predict long-term relationship satisfaction in men and women. We estimated a latent-growth curve model predicting the intercept and slope of relationship satisfaction of men and women across four years by a couple's intercept and slope of negative communication within the conflict discussion at T1. The estimated model provided excellent fit to the data ($\chi^2(54) = 69.46$, $p = .077$; RMSEA = .028; CFI = .994) and parameter estimates are presented in Table 7.

The intercept and slope of negative communication within the conflict discussion at T1 predicted the intercept of relationship satisfaction in men and women. Thus, lower initial negative communication and higher decreases in negative communication were associated with higher initial (T1) relationship satisfaction in men and women: Couples who started the conflict discussion with lower levels of negativity or were able to down-regulate the negativity throughout the conflict conversation, were those couples who also reported higher relationship satisfaction at T1. Interestingly, intercept and slope of negative communication did not correlate with one another; they seem to capture distinct aspects of the trajectories of a conflict communication explaining a unique share of variance.

In contrast, the intercept and slope of negative communication did not predict the slope of relationship satisfaction. Hence, *change* in relationship satisfaction across four years was neither associated with initial negative communication nor with the down-regulation of negative communication in the conflict discussion.

Table 7

Negative Communication Predicting Relationship Satisfaction over Time: Parameter Estimates of the Latent Growth Curve Model

	Unstandardized Estimate	*SE*	*p*	95% CI	*Standardized Estimate*
Latent Variables					
Intercept RS_F	**4.061**	**0.069**	**<.001**	**[3.925, 4.196]**	**8.67**
Intercept RS_M	**4.079**	**0.064**	**<.001**	**[3.953, 4.204]**	**9.40**
Slope RS_F	**–0.051**	**0.021**	**.016**	**[–0.092, –0.010]**	**–0.59**
Slope RS_M	–0.013	0.018	.485	[–0.048, 0.023]	–0.18
Covariances					
I_NegCom ↔ S_NegCom	0.000	0.001	.896	[–0.002, 0.003]	0.01
Path Coefficients					
I_NegCom → Intercept RS_F	**–0.085**	**0.021**	**<.001**	**[–0.126, –0.044]**	**–0.22**
I_NegCom → Intercept RS_M	**–0.068**	**0.019**	**<.001**	**[–0.106, –0.031]**	**–0.19**
S_NegCom → Intercept RS_F	**–5.565**	**1.208**	**<.001**	**[–7.932, –3.198]**	**–0.24**
S_NegCom → Intercept RS_M	**–5.156**	**1.118**	**<.001**	**[–7.348, –2.964]**	**–0.24**
I_NegCom → Slope RS_F	–0.003	0.006	.589	[–0.015, 0.008]	–0.04
I_NegCom → Slope RS_M	0.005	0.005	.297	[–0.005, 0.016]	0.09
S_NegCom → Slope RS_F	0.444	0.347	.201	[–0.236, 1.124]	0.11
S_NegCom → Slope RS_M	0.154	0.301	.609	[–0.436, 0.744]	0.04
RelDur → Intercept RS_F	0.000	0.001	.979	[–0.003, 0.003]	0.00
RelDur → Intercept RS_M	**0.004**	**0.001**	**.002**	**[0.001, 0.006]**	**0.16**
RelDur → Slope RS_F	**0.001**	**0.000**	**.005**	**[0.000, 0.002]**	**0.24**
RelDur → Slope RS_M	**0.001**	**0.000**	**.008**	**[0.000, 0.002]**	**0.23**
RelDur → I_NegCom	0.000	0.003	.885	[–0.006, 0.007]	0.01
RelDur → S_NegCom	–0.000	0.000	.462	[–0.000, 0.000]	-0.04
Residual Covariances					
Intercept RS_M ↔ Slope RS_M	–0.004	0.003	.248	[–0.010, 0.002]	–0.13
Intercept RS_F ↔ Slope RS_F	–0.001	0.005	.872	[–0.010, 0.008]	–0.02
Intercept RS_F ↔ Intercept RS_M	**0.116**	**0.012**	**<.001**	**[0.092, 0.141]**	**0.65**
Slope RS_F ↔ Slope RS_M	**0.003**	**0.001**	**.001**	**[0.001, 0.004]**	**0.48**
Intercept RS_F ↔ Slope RS_M	0.003	0.003	.234	[–0.002, 0.009]	0.11
Intercept RS_M ↔ Slope RS_F	0.000	0.003	.948	[–0.006, 0.006]	0.01

Explained Variance	R^2	*SE*	*p*
Intercept RS_F	**.11**	**.03**	**.001**
Intercept RS_M	**.12**	**.03**	**<.001**
Slope RS_F	.07	.04	.117
Slope RS_M	.06	.04	.128

Note. I_NegCom = couple's intercept of negative communication. S_NegCom = couple's slope of negative communication. RS = relationship satisfaction. RelDur = Relationship duration. F = Females; M = Males. Significant values are bold.

CoF Affecting the Temporal Trajectory of Negative Communication

In our second hypothesis we proposed that partners higher in CoF show a stronger decrease in negative communication across the conflict discussion than partners with lower CoF. The estimated model parameters are presented in Table 8 and were controlled for the effects of relationship duration and relationship satisfaction and its respective interaction

effects with time. The interaction effect of CoF × Time was significant for men. This indicates that for men the temporal trajectory of negative communication differed depending on CoF. More specifically, the graph in the upper part of Figure 7 illustrates that the probability for negative communication of men with higher CoF decreases from 9% to 7% in the course of the conflict discussion while it increases for men with lower CoF from 10% to 14%. Thus, men higher in CoF showed a more deescalating conflict communication. This interaction effect did not reach significance in women, even if the estimates of the interaction effect did not differ significantly between genders ($\chi^2(1) = 3.08$, $p = .079$) and the graph presenting women's interaction effect (lower part of Figure 7) shows a similar pattern as the graph presenting men's interaction effect.

Table 8

Parameter Estimates of the Multilevel Model Predicting the Probability of Negative Communication

	Fixed Effects Estimate (*SE*)	*p*	Random Effects Standard Deviation
Intercept			
Women	−2.528 (0.151)	<.001	1.417
Men	−3.063 (0.185)	<.001	1.751
Time			
Women	−0.006 (0.004)	.210	0.032
Men	−0.003 (0.005)	.495	0.050
CoF			
Women	0.126 (0.189)	.506	
Men	0.031 (0.193)	.871	
CoF × Time			
Women	0.000 (0.006)	.973	
Men	−0.015 (0.006)	.013	
RS			
Women	−0.175 (0.164)	.286	
Men	−0.352 (0.217)	.104	
RS × Time			
Women	−0.019 (0.005)	<.001	
Men	−0.009 (0.006)	.162	
RelDur			
Women	−0.001 (0.005)	.878	
Men	0.006 (0.006)	.348	
RelDur × Time			
Women	−0.000 (0.000)	.393	
Men	−0.000 (0.000)	.686	

Note. CoF = Clarity of other's feelings. RS = Relationship satisfaction. RelDur = Relationship duration. Model fit indices: -2 log likelihood = −9136.8; Akaike Information Criteria AIC = 18325.6; Bayesian Information Criteria BIC = 18545.0.

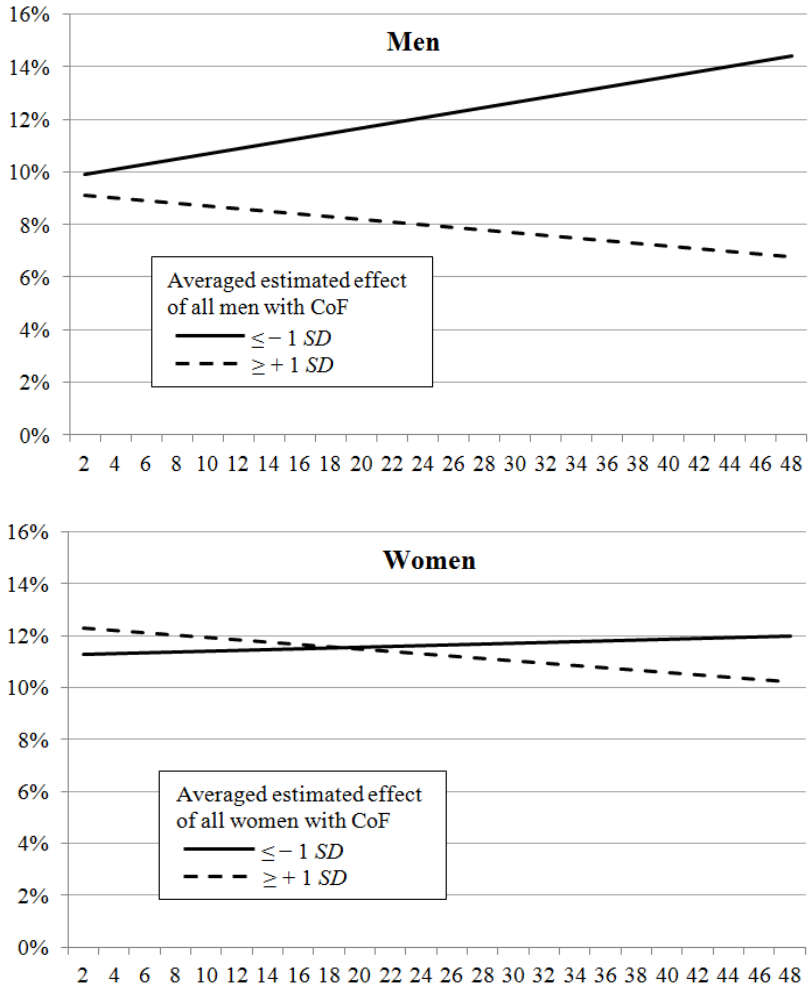

Figure 7. Temporal trajectory of the likelihood of men's (upper part) and women's (lower part) negative communication depending on men's and women's clarity of other's feelings, respectively.

Discussion

Negative communication within conflict discussions of couples most likely unfolds across the course of an argument and couples differ in their temporal trajectories of negative communication (Gottman, 1994). The current study targeted the variability of temporal trajectories of negative communication within an 8-minute conflict discussion and tested (1) whether the temporal trajectories of negative communication within the conflict interaction can predict long-term relationship satisfaction and (2) whether variability in the temporal trajectories of negative communication can be predicted by partner's CoF.

Initial negative communication and the trajectory of negative communication across the conflict discussion were, independently of each other, associated with relationship satisfaction of men and women. More specifically, more satisfied couples started their conflict

discussion with lower negative communication and, additionally and independently of this effect, were better able to down-regulate their negative communication during the course of their conversation. This finding is in line with previous cross-sectional studies showing that more satisfied couples communicate less negatively (Woodin, 2011). Moreover, the current study goes beyond these previous studies by showing that the level of negative communication and the trajectory of negative communication must be regarded as independent aspects. Both explain, independently of each other, meaningful variance in relationship satisfaction. Hence, to encompass the characteristics of negative communication within conflict discussions it seems important to differentiate these two aspects.

However, initial negative communication and the trajectory of negative communication did not predict *change* in relationship satisfaction across four years. Results of previous studies predicting change in relationship satisfaction by negative communication are heterogeneous. Some studies report that more negative communication leads to a decrease in relationship satisfaction in the long-run (M. D. Johnson et al., 2005) whereas other studies show that more negative communication can be beneficial for long-term relationship satisfaction (Karney & Bradbury, 1997; McNulty & Russell, 2010; Overall et al., 2009). In the current study, we hypothesized that these heterogeneous findings might be explained by taking the temporal trajectories into account. More specifically, we proposed that only the temporal trajectory but not initial negativity might predict long-term relationship satisfaction. As this hypothesis had to be rejected, we can conclude that taking the temporal trajectories of negative communication into account does not explain the mixed previous findings. It remains open to future research to disentangle the ambivalent effects of negative communication on long-term relationship satisfaction.

The Role of Clarity of Other's Feelings

Results of the current study reveal that CoF altered the temporal trajectory of negative communication within a conflict discussion, but only in men. More specifically and in line with our hypothesis, men who reported to know other people's feelings well showed a stronger decrease in negative communication. That is, being clear about other people's feelings seems to help men to down-regulate their own negative behavior within the temporal course of the conflict discussion more effectively. Thus, in line with previous studies, men's CoF seems to foster a de-escalating temporal trajectory of conflict discussions in intimate relationships (Cohen et al., 2015; Kilpatrick et al., 2002; Rizkalla et al., 2008). Given that the current study used different measurements for CoF and for conflict communication than

previous studies, the current results confirm the robustness of the effect of CoF on constructive conflict styles.

The effect of CoF on the temporal trajectory of negative communication was not significant for women: Women down-regulated their own negative communication within the temporal trajectory of the conflict discussion irrespective of their level of clarity CoF. However, women showed the same trend as men did (i.e., women with higher clarity of other's feelings showed a tendency for a steeper decline in negative communication). One reason for the non-significant finding in women might be that most of the women had relatively high levels of clarity of other's feelings, resulting in potential ceiling effects and making it less likely for the effect to reach statistical significance.

Strengths and Limitations

Major strengths of the current study are its longitudinal design, the inclusion of observational data, and the investigation of the temporal trajectory of negative communication. The longitudinal design allowed to assess associations with long-term relationship satisfaction and to test for effects on changes in relationship satisfaction. The inclusion of observational data limits the vulnerability of the results for being inflated by shared method variance. And by investigating the temporal trajectory of negative communication, this study expands on previous results by taking aspects of the temporal dynamics of conflict discussions into account.

Nevertheless, several limitations have to be mentioned. First, we were not able to disentangle the distinct effects of different negative communication behaviors, as the incidence rates of the single behaviors were too low. As the effects of negative communication on relationship satisfaction might differ depending on the specific type of negative communication (e.g. whether the negative communication is direct or indirect; Overall et al., 2009), future studies with higher incidence rates of negative behaviors should target this possibility. Second, CoF did not specifically capture clarity of feelings of one's partner but assessed the clarity of feelings of other people in general. Given that CoF can vary across interaction partners, this might have influenced the results. As the current study investigated the effect of CoF (non-specific to one's partner) on negative communication (relationship specific variable), the current study might even underestimated the strength of the effect. Third, we measured CoF non-specific to the type of feelings, but the effect of CoF on negative conflict communication might depend on what type of feeling one is clear about (Cohen et al., 2015). It might be particularly beneficial, for example, to be clear about one's

partner's soft emotions such as sadness or feeling hurt (vs. hard emotions such as anger; Sanford, 2007). Future studies could benefit from disentangling the distinct effects of CoF regarding specific feelings.

Practical Implications

The current results suggest that the initial negative communication and the temporal trajectory of negative communication within a conflict discussion are, independently of each other, associated with relationship satisfaction. This suggests that couple interventions should not only focus on general communication styles but also specifically on couples' ability to start a conflict discussion with low negativity and on the couple's ability to reduce negativity within the course of a conflict discussion. They could, for example, teach couples how to calm down after negative communication behavior in the beginning of a conflict, by using techniques such as muscle or breathing relaxation (Berking & Schwarz, 2014). Given the current results, it might also be a promising staring point to target men's CoF in order to enhance their ability to down-regulate their own negative communication across the course of a conflict interaction. This could be implemented by encouraging partners to explicitly express their understanding of the other partner's feelings and to provide positive feedback to each other whenever they felt understood. Moreover, they could discuss strategies how couples can manage to start a conversation calmly. For example, trainings could foster partners' awareness of their own arousal level before a conflict discussion, and training them to manage not to start a conflict right in the moment of high arousal but being able to postpone the topic for a couple of hours. Focusing more specifically on certain temporal aspects of a conflict discussion might help to tailor interventions more specifically to a couple's needs. That is, some couples might start their conflicts calmly but struggle with keeping their negative communication on a low level across the conflict discussion, whereas others struggle more strongly with initial negativity. Depending on couples' typical communication trajectories, they might benefit from different foci in couple intervention or prevention efforts.

Finally, results of the current study highlight the importance of couples' continuous effort to maintain a constructive conflict communication style: momentary communication was associated with concurrent relationship satisfaction, but did not predict the development of future relationship satisfaction. Thus, a constructive conflict communication style at a certain point in time is no guarantee for high relationship satisfaction in the long-run but continuous care of a couple's communication style is needed.

GENERAL DISCUSSION AND CONCLUSIONS

9. General Discussion and Conclusions

The aim of this thesis was to expand on the knowledge about interpersonal affect regulation in intimate relationships, with a specific focus on the role of empathy within this process. In the theoretical background, a conceptualization of interpersonal affect regulation was introduced, which provided a framework to integrate the findings from different fields of research on interpersonal affect regulation. In addition, the role of empathy in interpersonal affect regulation was examined. The empirical contributions assessed specific research questions on the role of empathy in two fields of research on interpersonal affect regulation, i.e., dyadic coping and couple conflicts. Furthermore, the empirical research also investigated whether the conceptualization of a couple conflict as interpersonal affect regulation could provide further insight into the inconsistent findings regarding the influence of conflict communication on long-term relationship satisfaction.

9.1. Summary and Discussion of Findings

Study 1 examined the process of dyadic coping within the context of the 3-phase method, a therapeutic couple exercise designed to strengthen couple's dyadic coping skills. More specifically, study 1 investigated (1) the association between processes during stress expression and empathy; and (2) the association between empathy and support provision. Thus, this study explored how empathy can arise in an interpersonal affect regulation situation and whether empathy contributes towards a more successful interpersonal affect regulation. Study 1 investigated a specific situation (i.e., couple discussion based on the 3-phase method) and used measures which capture the ongoing processes within this specific situation. It therefore focused on state aspects of all investigated concepts.

Regarding the association between processes during stress expression and empathy, results revealed that speakers' immersion (defined by getting access to deeper emotions such as sadness across the first phase of the 3-phase method) positively predicted listeners' affective empathy but did not predict listeners' cognitive empathy. Thus, the process of accessing the deeper emotion of sadness across the course of the stress communication phase appears to promote greater affective empathy in listeners. This indicates that immersion fosters an emotional bonding between the partners. Additionally, listeners' quality of summarizing was associated with greater cognitive empathy in men, suggesting that men cognitively understood their female partner's feelings better when they were better able to

summarize the stress expressions of their female partners. Hence, listeners' affective empathy appears to be more strongly associated with speakers' affective processes, and listeners' cognitive empathy appears to be more strongly associated with their ability to cognitively follow the stress expressions of their partner.

The association between the quality of summarizing and cognitive empathy can be interpreted in relation to the close interrelation between decoding processes and state empathy, as proposed in Chapter 2.2 (see also Segal et al., 2017; Zaki & Ochsner, 2016). Specifically, correctly cognitively decoding the stress expressions of the partner appears to be associated with the individual's belief that they understand their partner's feelings. This suggests that either high quality summarizing can enhance cognitive empathy, or that cognitive empathy enables the individual to summarize well. It is likely that the two processes are strongly intertwined, so that they mutually influence each other.

One could also argue that the quality of summarizing is the *ability* to correctly understand the feelings of one's partner correctly (similar to empathic accuracy), whereas self-reported cognitive empathy is the individual's *belief* that they understand the feelings of their partner (see Chapter 3.2). Based on this rational, the results of study 1 diverge from previous findings which suggest that abilities and beliefs of empathy do not correlate (Ickes, 1993). However, the reason for the contrasting results may be that the study of Ickes (1993) compared state measures of ability with trait measures of beliefs, whereas study 1 compared state measures for both constructs.

The lack of an effect of immersion on cognitive empathy may indicate that immersion can lead to confusion in the listener, as the intensity and the quality of affect during the speaker's stress expression differs from what the listener is used to. Another possible explanation may be that some listeners became strongly emotionally affected by the intense affect of the speaker, resulting in their own strong affect (given the significant effects between immersion and affective empathy). This may have undermined listeners' capabilities to achieve cognitive empathy when the experienced affect was not sufficiently regulated, as listeners may have been more focused on their own affect. This explanation is in line with the model of Segal and colleagues which proposed that "full" empathy cannot arise when either the self-other awareness is not maintained or the regulation of their own affects fails while being affected by another individual's feelings (Segal et al., 2017).

Regarding the question of whether empathy contributes to more adequate supportive reactions, results indicated that cognitive empathy was more relevant for the speakers' perceived emotional supportive dyadic coping than their affective empathy. This result should

be interpreted with caution, as it differs from previous studies which examine the association between affective empathy and support provision in intimate relationships (Levesque et al., 2014; Verhofstadt et al., 2016, 2008). Within the context of affective empathy, several aspects need to be considered (e.g., self-other awareness, distinction between empathy and sympathy, regulation of own affect). These aspects may play a more important role in situations in which the speaker's affect is intense (this is likely to be more strongly the case in the 3-phase method compared to everyday support interactions, as the 3-phase method focuses on the exploration of emotional aspects of the stress, whereas in everyday support interactions many couples talk less explicitly about their affect associated with the stress; Bodenmann, 2008b; Kuhn et al., in press). Further research is required to disentangle the role of the different aspects of affective empathy for support provision and its interrelation with cognitive empathy. For example, a certain level of affective empathy may be a prerequisite for increasing cognitive empathy, but affective empathy that results in overwhelming an individual's own affective reactions may interfere with cognitive empathy (see also Chapter 3). This explanation would be in line with the proposed model of Segal and colleagues (2017). Alternatively, affective and cognitive empathy may interact with each other so that the positive effect of cognitive empathy on support provision is strengthened when (moderate) affective empathy is also present (Winczewski et al., 2016).

Study 2 examined the role of cognitive empathy in long-term dyadic coping. Thus, in contrast to study 1, study 2 focused on the role of trait empathy, but not state empathy, and assessed the long-term development of dyadic coping, but not processes within a specific situation. Results showed that men's cognitive empathy fostered the maintenance of their supportive dyadic coping in the long-term. Thus, in men, cognitive empathy appears to be a resource that buffers the decline of supportive dyadic coping across time (M. D. Johnson et al., 2016), and therefore appears to contribute to successful dyadic coping processes across a longer period. Women's cognitive empathy was positively associated with their male partner's current perceived supportive dyadic coping, but not with the male partner's trajectory of perceived supportive dyadic coping across time. These gender differences may be due to ceiling effects in women's cognitive trait empathy. Ceiling effects make it less likely that effects reach statistical significance, and as the longitudinal effects were much smaller than the cross-sectional effects, the ceiling effects in women's cognitive empathy may have had stronger consequences for the longitudinal effects. Results from study 2 confirmed the results of study 1 with regard to the role of cognitive empathy for support provision. More

specifically, study 1 and study 2 both showed a positive association between cognitive empathy and the perceived supportive dyadic coping of the partner. Hence, cognitive state empathy appears to contribute to greater perceived supportive dyadic coping within a specific situation, and cognitive trait empathy appears to be a resource for current as well as long-term successful dyadic coping.

Study 3 examined the role of cognitive trait empathy on the trajectories of negative communication within a conflict discussion. It therefore assessed the role of cognitive trait empathy in the regulation of an individual's own affect within a specific interpersonal affect regulation situation. In addition, study 3 investigated whether the examination of temporal trajectories of negative communication could provide further insight into the inconsistent findings on the effects of conflict communication on long-term relationship satisfaction (e.g., M. D. Johnson et al., 2005; Karney & Bradbury, 1997). Results revealed that men's cognitive trait empathy was associated with a stronger down-regulation of their own negative communication across the conflict discussion. Thus, this study provided evidence that men's cognitive trait empathy altered the trajectory of a conflict discussion, suggesting that cognitive trait empathy influences the dynamic of interpersonal affect regulation within the context of conflicts. Similar to study 2, this effect was only found for men's cognitive empathy, but not for women's cognitive empathy. Hence, results from study 2 and 3 suggest that men's cognitive empathy plays a more important role in interpersonal affect regulation, in comparison to women's cognitive empathy. This gender difference is in line with neuroscientific findings, which suggest that men tend to process the affect of others more strongly through cognitive brain processes, whereas affective brain processes are more strongly activated in women (Schulte-Rüther, Markowitsch, Shah, Fink, & Piefke, 2008). In contrast to study 2 and 3, no gender differences emerged in study 1regarding the effects of cognitive and affective empathy on interpersonal affect regulation. Thus, findings of this thesis are similar to the heterogeneous gender differences found in previous studies which examined the role of empathy in interpersonal affect regulation (Cohen et al., 2015; Levesque et al., 2014; Rizkalla et al., 2008; Verhofstadt et al., 2016). Hence, at this point no conclusions can be drawn regarding the effect of gender differences on the role of cognitive empathy in interpersonal affect regulation.

Furthermore, study 3 showed that initial negativity in a conflict discussion and the trajectory of negativity across a conflict interaction are independently associated with relationship satisfaction. Hence, conceptualizing conflict discussions as an interpersonal affect

regulation situation, which begins with a certain level of negativity that subsequently unfolds across time, may provide additional insight into the role of conflicts in relationship satisfaction. More specifically, how a conflict begins appears to be somewhat independent from how a conflict develops. Therefore, some couples may struggle with high initial negativity, whereas others may struggle with the down-regulation of negativity. This suggests that different interventions are needed to address the two aspects of negativity in a conflict interaction.

Initial negativity and trajectories of negativity did not predict change in long-term relationship satisfaction indicating that a couple may need to continuously care for their interpersonal affect regulation competencies in order to maintain long-term relationship satisfaction. Given the heterogeneous results from previous longitudinal studies of change in relationship satisfaction across time (e.g., M. D. Johnson et al., 2005; Karney & Bradbury, 1997), the relevance of conflict communication at a certain point in time for the development of relationship satisfaction across a longer period of time is still unclear. Therefore, for the long-term development of relationship satisfaction it may be more relevant to examine the processes which are initiated by conflicts (e.g., changes in problem areas; see Overall & McNulty, 2017), or how conflict communication develops across time. That is, it may be more important for long-term relationship satisfaction that conflicts are settled constructively continuously.

If continuous attention to interpersonal affect regulation is required to maintain long-term relationship satisfaction, results from the field of dyadic coping would need to be in line with that conclusion. However, in the context of dyadic coping, longitudinal studies are rare. There are a few studies which show that dyadic coping can predict relationship satisfaction at a later point in time (e.g., Bodenmann & Cina, 2005; Ruffieux, Nussbeck, & Bodenmann, 2014), however, these studies did not predict change in relationship satisfaction. There is at least one study which has shown that dyadic coping predicted change in relationship quality across the adjustment time following a critical life event (Rottmann et al., 2015); however, the time-span of this study was only five months. Thus, the short time-span of the study enhances the likelihood that the dyadic coping measured at baseline is representative of the levels of dyadic coping across the whole study period. Therefore, the limited findings from the field of dyadic coping do not contradict the conclusion that the maintenance of long-term relationship satisfaction requires continuous attention to interpersonal affect regulation competencies. This conclusion is also in line with the recommendations taught in relationship education training, that one needs to care for one's relationship continuously in order to maintain relationship

satisfaction in the long-term (e.g., CCET; Bodenmann & Shantinath, 2004). Furthermore, given that results of study 2 suggest that cognitive trait empathy contributes to the maintenance of successful interpersonal affect regulation within the context of dyadic coping, strengthening cognitive trait empathy may be a promising starting point to enhance the long-term successful interpersonal affect regulation within a couple.

In sum, the studies in this thesis used a variety of different methods (i.e., self-report, partner-report, observational data) and examined the role of empathy within different contexts (i.e., dyadic coping, conflicts) using different study designs (i.e., process-oriented design, longitudinal designs). Findings of these three empirical contributions suggest that empathy is a prerequisite for interpersonal affect regulation, and all three studies supported the notion that cognitive empathy enhances interpersonal affect regulation.

9.2. Limitations and Outlook for Future Research

This chapter discusses the main limitations of the empirical contributions. As the limitations specific to the respective empirical contributions have been previously discussed in chapters 6 to 8, this chapter focuses on selected overarching limitations.

9.2.1. Sample Characteristics

The sample size of study 1 was relatively small (33 couples), limiting the overall generalizability of the findings. In addition, the sample was aged between 20 and 45 years, highly educated, and approximately 60% of the participants were students. Thus, results can only be generalized to young and middle-aged adults and cannot be generalized to lower educated individuals. However, results are also valid for non-students as 40% of the participants were not in education at the time of the project. The average relationship satisfaction of the sample was moderate, which indicates that results can be generalized not only to highly satisfied couples but also to moderately satisfied couples.

The sample size of study 2 and 3 was relatively large (368 couples at T1) and was highly diverse regarding participant's age (20–80 years old at T1) and relationship duration (ranging between 1–60 years at T1), which enhances the generalizability of the findings. However, the sample was highly educated and average relationship satisfaction was high. Thus, results cannot be generalized to lower educated couples and distressed couples.

Couples from both samples were heterosexual and lived in western countries (the majority of which lived in Switzerland). Thus, results cannot be generalized to homosexual couples and couples in non-western countries.

9.2.2. Operationalization and Conceptualization of Empathy

All empirical studies measured empathy using self-report measures. Given that performance-based measures of empathy rarely correlate with self-report measures (Ickes, 1993), the reliance on self-report measures is a limitation. However, previous studies examining the effect of empathic accuracy (a performance-based measure for cognitive empathy) on conflict regulation and support provision showed similar effects as the empirical contributions in this thesis (Cohen et al., 2015; Verhofstadt et al., 2016). As self-report and performance-based measures of cognitive empathy predicted similar outcomes but are weakly correlated with each other, future research is required to clarify the interrelatedness between the two measures. For example, it may be that self-report measures capture the self-efficacy belief whereas performance-based measures capture the actual ability of cognitive empathy (see Keefer, 2014). Therefore, the two measures would measure different theoretical constructs, which may interact with each other in so far that they strengthen each other's effects (Salguero, Extremera, Cabello, & Fernandez-Berrocal, 2015).

Study 2 and 3 focused on clarity of other's feelings, a cognitive aspect of empathy, and therefore neglected other aspects of empathy such as affective aspects and perspective taking. Although study 1 included affective empathy, it was measured by a single item, which limits its validity. Future research should broaden its focus and examine the role and interplay of different aspects of empathy in interpersonal affect regulation. More specifically, future research should include various aspects of empathy in the same study (such as affective and cognitive aspects of empathy), differentiate between state and trait aspects of empathy, and should also consider self-other awareness and own affect regulation while experiencing affective empathy (see Segal et al., 2017; Verhofstadt et al., 2016). The consideration of aspects such as self-other awareness and own affect regulation appears to be particularly important when examining affective empathy, as intense and overwhelming affective empathy (e.g., personal distress) have repeatedly been shown to be negatively associated with interpersonal outcomes (Eisenberg & Eggum, 2009). Furthermore, future research should investigate the interplay between the different aspects of empathy. For example, is a certain level of affective empathy necessary to increase cognitive empathy? Or do affective and cognitive empathy interact with each other in relation to the prediction of interpersonal affect regulation outcomes, as the results of a study by Winczewski and colleagues (2016) suggest?

With regard to this last question, additional analyses were conducted based on the data in study 1. Specifically, the additional analyses tested whether affective empathy moderates the effect of cognitive empathy on the perceived emotional supportive dyadic coping of the

partner. Results of these analyses are presented in the Appendix. The moderating effects was significant in the expected direction for men's empathy (β = 0.33, *p* = .018) but not significant for women's empathy (β = 0.03, *p* = .438; see Figure 8). Thus, men's affective appears to strengthen the positive effect of men's cognitive empathy on their female partner's perceived emotional supportive dyadic coping, which is in line with the results of the study of Winczewski and colleagues (2016). Hence, it seems to be promising to continue this line of research.

At present, a wide array of definitions exist for empathy (Cuff et al., 2016). This complicates a thorough examination of different aspects of empathy. Given the varied definitions, it one sole and overarching definition of empathy may be too general and therefore unconstructive. Conversely, it may be more promising to precisely define the different aspects of empathy and to discuss the interrelations between the different aspects. For example, such an overview was recently provided by Segal and colleagues (2017).

9.2.3. Process-Oriented Aspects

Interpersonal affect regulation in intimate relationships is a dynamic process unfolding across time. More specifically, it may be viewed as the interplay of both partners' cognitions, affect, and behaviors, which mutually influence each other and develop with time (see Chapter 2.2). Some of these process-oriented aspects were taken into account in study 1 and study 3. Specifically, study 1 examined a therapeutic couple discussion which structurally separated processes during stress expression and support provision, and which measured different aspects of the ongoing processes directly within that situation. Study 3 examined trajectories of negative communication within a conflict discussion and therefore considered process-oriented aspects of the conflict interaction. However, many more dynamic processes should be taken into account in future studies.

A particularly relevant topic would be to understand the role of *turning points* in the interpersonal affect regulation process. What needs to happen so that the interaction changes, for example, from a harsh and negative tone into a more conciliatory interaction? What needs to happen so that a stressed partner calms down and feels supported? More specifically, which type of cognitive, affective, and behavioral (re)actions in both partners facilitate a turning point in the desired direction? And at which point in time within an ongoing discussion is a specific cognitive, affective, or behavioral (re)action particularly useful (e.g., in the beginning or only later in the discussion)? Factors to be considered may include: experiencing or verbally expressing deeper emotions instead of superficial emotions (Sanford, 2007), cognitively reactivating alternative explanations for the partner's harsh reactions (Sanford,

2006), or attentively listening before reacting (Kuhn, Bradbury, Nussbeck, & Bodenmann, in revision).

Given that empathy encompasses crucial aspects of how one individual processes another individual's affect, it is important to consider the role of empathy within interpersonal affect regulation. Specifically, given the results of the current thesis, reaching mutual emotional understanding may help to down-regulate negative affect and may even help to create more positive and intimate interactions. However, it would be important to understand in more detail (1) how empathy develops within an interpersonal affect regulation situation; and (2) how different aspects of empathy influence the processes of interpersonal affect regulation. First, the development of empathy within a discussion may depend on how the partner expresses their point of view (i.e., type of stress expression, type of conflict communication). In addition, stronger empathy may be achieved through attentively listening to and carefully watching for nonverbal signals from the partner. Second, results of the current thesis suggest that empathy enhances interpersonal affect regulation. However, it remains unclear which aspect of empathy influences which cognitions, affect and behaviors of the partners across the course of a couple interaction. For example, it may be that affective empathy enhances the motivation to gain a thorough cognitive understanding of the partner's affect (i.e., cognitive empathy; Winczewski et al., 2016), resulting in more patient and attentive listening. At a later point in the discussion, the gained cognitive empathy may in turn result in more adequate behavioral reactions towards the partner (e.g., more adequate dyadic coping, more constructive conflict communication). To understand these processes in more detail, future studies are required to investigate the dynamics and interplay of cognitions, affects, behaviors, and various aspects of empathy, using continuous measures in situations of interpersonal affect regulation.

The role which the dynamic aspects of empathy play in interpersonal affect regulation could be investigated using repeated measures of affect, cognitions, behaviors, and aspects of empathy within ongoing couple discussions. More specifically, future research could measure physiological aspects (e.g., Mauss et al., 2005) and code behavioral aspects (e.g., Bodenmann, 2008c; Coan & Gottman, 2007), or examine aspects of nonverbal behavior using computer-based analyses (e.g., facial expression analysis tool (FEAT); Kaiser & Wehrle, 2001; Wehrle, 1992/1996; motion energy analysis (MEA); Ramseyer & Tschacher, 2011). Additionally, using visualization tasks couples could continuously rate their own affect, the perceived affect of their partners, and various aspects of empathy (e.g., affective and cognitive aspects, self-other awareness, perspective taking). Within such visualization tasks, empathic accuracy

could also be measured (e.g., Ickes, 1993), and thus self-report measures could be compared with performance-based measures of empathy. In order to examine dynamics of intensive longitudinal data, sophisticated statistical analyses are needed, such as multilevel and structural equation modeling, simulations, or graphical methods (e.g., state-space grids; see Butler, 2011).

In addition to empathy, other individual traits and states are also likely to influence the interpersonal affect regulation process, such as individual affect regulation (Ben-Naim, Hirschberger, Ein-Dor, & Mikulincer, 2013), an individual's own stress (Bodenmann et al., 2015), or attachment (Mikulincer & Shaver, 2010). Therefore, future research should investigate the influence of other states and traits in order to better understand interpersonal affect regulation processes. With regard to states, manipulating the states in experimental designs may also be a promising approach (e.g., see Bodenmann et al., 2015).

Detailed knowledge about these processes on a micro-analytical level would provide a concrete starting point for interventions. In order to develop adequate interventions specifically adjusted to the needs of a couple, we must first understand how and why a partner feels, thinks, and behaves in the way they do within a specific situation; how these reactions interact with the other partner's reactions, and which aspects influence an interpersonal affect regulation process as it unfolds across time.

9.2.4. Contexts of Interpersonal Affect Regulation

The empirical contributions of this thesis investigated interpersonal affect regulation within the context of dyadic coping and conflicts, which are both contexts for regulating negative affect. However, the interpersonal regulation of positive affect was not assessed in this thesis. Given that positivity is crucial for intimate relationships (DeFrain & Asay, 2007) and that positivity can buffer the detrimental effects of negativity (M. D. Johnson et al., 2005), it is important to also research the field of interpersonal regulation of positive affect.

To date, the majority of research has been conducted within a specific context of interpersonal affect regulation, such as conflicts, dyadic coping, or capitalization. However, in everyday interactions, these different contexts are not always as distinct as they are treated in research. Dyadic coping interactions can cross-over into a conflict interaction and interactions may switch back and forth between dyadic coping and conflict. To adequately assess the dynamics of interactions which cannot be allocated to one single context, it may help to think about interpersonal affect regulation in a more general sense, rather than context specific; for example, based on the framework presented in Chapter 2.2.

However, each context also has its distinct characteristics, and other dynamics may evolve depending on the context. For example, in conflict interactions both partners may experience intense affect, whereas in dyadic coping interactions the stressed partner's affect may be more intense than the supportive partner's affect. Such differences should also be carefully taken into account. Hence, future studies should examine both perspectives, context-specific perspectives and the broader perspective, to enhance the understanding of interpersonal affect regulation.

The framework of processes of interpersonal affect regulation proposed in Chapter 2.2 may help to see commonalities in the interpersonal affect regulation processes across different contexts. While the proposed framework may not be exhaustive and may need to be further developed, it was useful in the current thesis to understand the commonalities in the processes of conflict regulation and dyadic coping, and the commonalities in the roles of empathy within conflict regulation and dyadic coping. Furthermore, it led the generation of new research questions. For example, the investigation of empathy as a process, which is closely interrelated with a partner's affective and cognitive reactions to the other partner's behavior. Empathy may therefore also need to be investigated as a process. In sum, the framework may help other researchers to switch back and forth between different contexts of interpersonal affect regulation, to see commonalities between the different contexts, and to transfer findings from one context to another.

9.3. Practical Implications

All three empirical studies in the current thesis provided evidence highlighting the importance of understanding the affect of one's partner for successful interpersonal affect regulation. Hence, couple interventions should foster partners' mutual understanding of each other's affect in interpersonal affect regulation situations. CCET, COCT, and EFCT are examples of couple interventions which contain such elements (Bodenmann, 2012; Bodenmann & Shantinath, 2004; S. M. Johnson & Greenberg, 1995). However, in other couple interventions, the focus on understanding the partner's affect is less present (e.g., CARE; Halford et al., 2004). Results of this thesis suggest that it may be promising for couple interventions to increase their focus on elements which train partners' understanding of each other's affect within the context of interpersonal affect regulation.

Training couples to understanding their partner's affect could be implemented by (1) training partners to express their affect explicitly, and (2) training the listening partner in techniques to enhance emotional understanding. These aspects are described in more detail below:

(1) Interventions need to train partners to express their affect explicitly (Bodenmann, 2012). Specifically, partners should try to describe the experienced affect itself, but also experienced physiological reactions, associated thoughts, or images which illustrate the experienced affect. Describing these facets can help to gain insight into one's own affect. It therefore helps to provide a nuanced description of the experienced affect, and also enhances the other partner's understanding of the described affect. Additionally, partners should be trained in accessing expressing deeper emotions. As study 1 showed, accessing deeper emotions was associated with stronger affective empathy in the other partner. Furthermore, the experience and expression of deeper emotions can enhance both partner's understanding of the real underlying reason for the experienced affect (see Bodenmann, 2008b; S. M. Johnson & Greenberg, 1995). This can result in greater mutual emotional understanding and emotional bonding, and can also increase the likelihood of a tender reaction towards the other partner (see Benson & Christensen, 2016; Sanford, 2007). Fostering the access of deeper emotions is part of CCET, COCT, EFCT; however, it is less part of Behavioral Couple Therapy (Jacobson & Margolin, 1979), Cognitive Behavioral Couple Therapy (Baucom & Epstein, 1990), and PREP (Markman et al., 1984). Given the empirical evidence, it might therefore be promising to include the training of accessing deeper emotions in all couple interventions.

(2) To gain an understanding of the other's affect, the listening partner should be trained to listen attentively. This can be trained by implementing the widely-used speaker and listener rules (Bodenmann, 2008b). That is, the listening partner should not interrupt the speaker, should try to understand what the other partner has said, and only react afterwards. Being a good listening partner requires the desire to understand the other partner's point of view without thinking about their own opinions or reactions. Thus, couple interventions should ensure that the listening partner does not get overwhelmed by own affective experiences as this likely undermines their abilities to listen attentively. To increase emotional understanding, the listening partner could also ask open questions about the affective experience of their partner. In addition, to ensure that the listening partner understood their partner correctly, they could paraphrase what he/she understood. Results of study 1 suggest that paraphrasing may be particularly useful for *men*'s understanding of their female partner's affect.

As the results of study 1 show that cognitive empathy was more important with regard to support provision than affective empathy, the question arises: how much affective empathy should couple interventions foster? Couple interventions have highlighted the necessity of experiencing and feeling the other partner's affect (affective empathy) for mutual

understanding (Bodenmann, 2008b; Greenberg & Goldman, 2008). However, the current results suggest that (self-reported) understanding of the other partner's affect may be even more important. However, as discussed in Chapter 3.1.3, affective empathy may be a prerequisite for cognitive empathy or may heighten the motivation to improve cognitive empathy (Winczewski et al., 2016). The additional analyses presented in the Appendix support this assumption for men but not for women with regard to data analyzed in study 1. However, it may also be that couple interventions need to adjust the level of fostered affective empathy to an individual's abilities of maintaining self-other awareness and own affect regulation, so that the individual does not become overwhelmed by the experienced affect (Eisenberg & Eggum, 2009).

Study 3 showed that negativity in the beginning of a conflict interaction and the trajectory of negativity across a conflict interaction are independent predictors of relationship satisfaction. Hence, couple interventions should take into account that couples can struggle at different points in a conflict interaction. In couple therapy, this aspect is taken into account as therapists do a thorough analysis of couple's interaction patterns (Bodenmann, 2012; Greenberg & Goldman, 2008). However, in couple education programs it may also be possible to stimulate couples to reflect on the points in a conflict interaction in which they struggled most. For example, a couple may often begin their conflicts in moments when they are already experiencing heightened emotional arousal. This couple could think about strategies for how to delay their arguments until another point in time. In contrast, when a couple can begin their arguments calmly but becomes strongly aroused during the course of a conflict interaction, this couple would need strategies for how to settle their arguments or how to interrupt intensive and destructive conflict discussions.

A word to couples

Being part of an intimate relationship is one of the most wonderful things in the world. However, in addition to all the pleasant feelings, unpleasant feelings are also a normal part of an intimate relationship. For example, unpleasant feelings can arise when individuals are stressed after a busy day at work, or when settling a conflict with one's partner. When unpleasant feelings arise within an interaction with one's partner, many individuals would like to regulate these feelings so that themselves and/or their partners feel better again. However, this is often easier said than done. The research results of this thesis suggest that a promising strategy is to try to understand the feelings of your partner. Do not waste too much time trying to understand the details of the matter-of-fact aspects of the topic discussed. Rather try to gain an emotional understanding of your partner's feelings. Ask him/her what the matter-of-fact aspects means for them and how they feel about it. This can be very difficult: When one's partner is stressed one might prefer to solve the problem for them, or when having a conflict, one might prefer to present one's own point of view. However, when you begin to understand your partner's unpleasant state, you will often realize that behind the superficial harsh reaction, a softer feeling is concealed. Detecting these softer feelings will help you to react in an adequate and conciliatory manner, which in turn helps to down-regulate yours and your partner's unpleasant feelings, and promotes a feeling of emotional closeness.

"I think that hate is a feeling that can only exist where there is no understanding."

Tennessee Williams

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APPENDIX

Based on data analyzed in study 1, additional analyses regarding the interaction of affective and cognitive empathy were conducted. Specifically, these analyses tested the prediction that listeners' affective empathy would moderate the effect of listeners' cognitive empathy on speakers' perceived emotional supportive dyadic coping, such that listeners' stronger affective empathy would strengthen the positive effect of listeners' cognitive empathy on speakers' perceived supportive dyadic coping.

An actor-partner interdependence model (APIM; Kenny et al., 2006; see Figure 8) was conducted. The predictor variables affective and cognitive empathy were centered by subtracting the mean affective and cognitive empathy from each individual value of affective and cognitive empathy. This was conducted separately for males and females. Additionally, an interaction term was computed for affective empathy × cognitive empathy, which was also conducted separately for males and females. A significant interaction term would indicate a significant moderation effect. No path restrictions were implemented; thus, the APIM is saturated and no fit indices can be reported. Model estimations were conducted using Mplus 8 (Muthén & Muthén, 1998–2015). Results are presented in Figure 8.

Results revealed a significant positive main effect of listeners' cognitive empathy on speakers' perceived emotional supportive dyadic coping, which was already reported in study 1. Furthermore, the interaction effect of men's affective empathy × cognitive empathy was significant, indicating that men's affective empathy moderated the positive effect of men's cognitive empathy on their female partners' perceived emotional supportive dyadic coping. More specifically, simple slopes analyses revealed that men's affective empathy strengthened the positive effect of men's cognitive empathy on their female partner's PESDC.

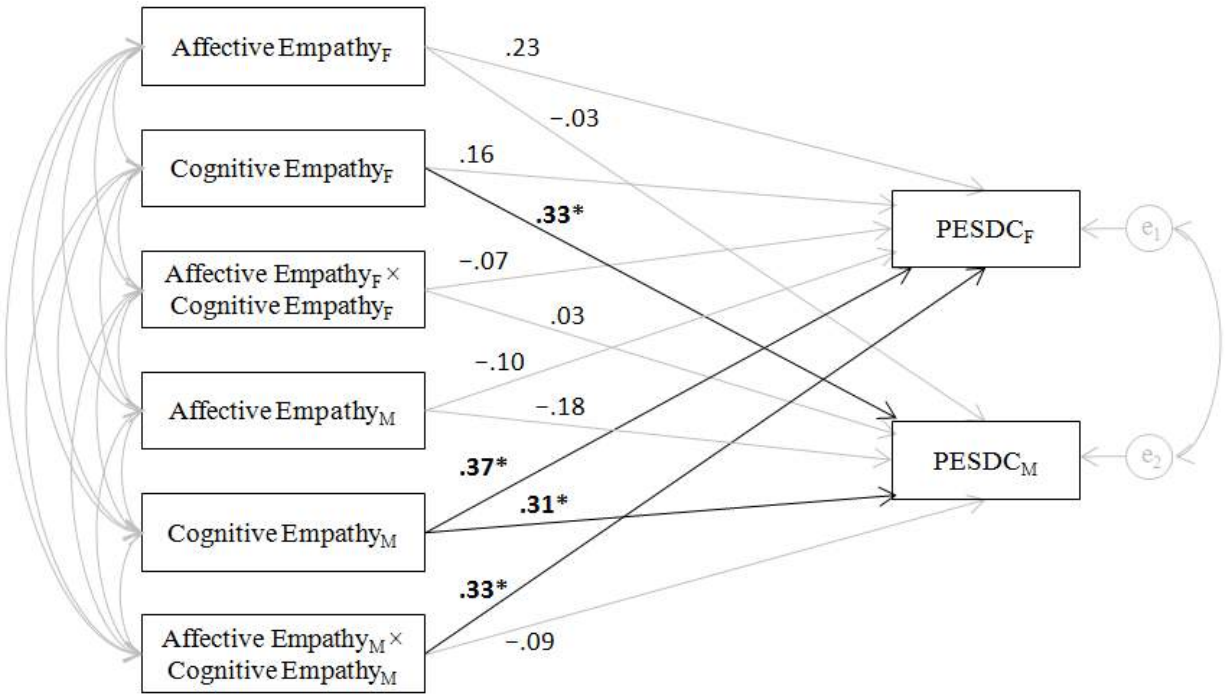

Figure 8. Actor-partner interdependence model predicting perceived emotional supportive dyadic coping. Standardized path coefficients are displayed. PESDC = perceived emotional supportive dyadic coping. F = Females; M = Males. Solid black lines represent paths that were significant on * $p < .05$ (one-tailed).

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09/2012 – 01/2015	**University of Zurich**, Master of Science in Psychology
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Professional Experience

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Publications

Leuchtmann, L. & Bodenmann, G. (2017). Interpersonal view on physical illnesses and mental disorders. *Swiss Archives of Neurology, Psychiatry and Psychotherapy*, *168*(06), 170-174. doi: 10.4414/sanp.2017.00516

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Leuchtmann, L., Horn, A.B., Randall, A.K., Kuhn, R., & Bodenmann, G. (under review). A process-oriented analysis of a therapeutic couple intervention strengthening dyadic coping.

Rusu, P., Nussbeck, F. N., Leuchtmann, L., & Bodenmann, G. (abstract accepted). Stress, supportive dyadic coping, and relationship satisfaction: Disentangling timely stable from situation-specific fluctuations.

Conference Contributions

Leuchtmann, L., Kuhn, R., Horn, A. B., & Bodenmann, G. (2017). What is needed to support your partner effectively? A process-oriented analysis of a therapeutic couple intervention. Poster presented at the 15th Congress of the M.Sc. and PhD Candidates of the Department of Psychology of the University of Zurich, Zurich, May 2017, Switzerland.

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Leuchtmann, L., Kuhn, R., Horn, A. B., & Bodenmann, G. (2017). Underlying mechanisms of a therapeutic couple intervention: The role of processes during stress-expression and empathic reactions in a program fostering dyadic coping. Poster presented at the 10th workshop-congress for clinical psychology and psychotherapy, Chemnitz, May 2017, Germany.

Leuchtmann, L., Zemp, M., Milek, A., & Bodenmann, G. (2017). The significance of clarity of other people's feelings for dyadic coping. Poster presented at the conference "Dyadic Coping: Health, Family and Cultural Contexts". Milan, January 2017, Italy.

Leuchtmann, L., Zemp, M., & Bodenmann, G. (2016). The significance of clarity of other people's feelings for dyadic coping. Talk at the 8th Congress of the European Society on Family Relations (ESFR) "Changing Family Relations - Gender and Generations". Dortmund, September 2016, Germany.

Leuchtmann, L., Zemp, M., & Bodenmann, G. (2015). The role of attention to one's own feelings on stress-related self-disclosure and the couple climate in romantic relationships. Talk at the SSP-SGP Conference 2015 "The Future of Psychology", Geneva, September 2015, Switzerland.

Leuchtmann, L., Hilpert, P., Milek, A., Bodenmann, G., & Schoebi, D. (2015). Reaktivität von Beziehungszufriedenheit gegenüber positivem Partnerverhalten und der moderierende Einfluss von Wohlbefinden: Eine Tagebuchstudie [Reactivity of relationship satisfaction on positive partner behavior and the moderating effect of mood: A diary study]. Poster presented at the 13th congress of the master and PhD students at the Department of Psychology, University of Zurich, Zurich, May 2015, Switzerland.

Talks and Workshops for Non-Scientific Audience

Leuchtmann, L. Herausforderung Alltagsstress. Vortrag am Seminarwochende für Paare der Fokolar Bewegung "Partnerschaft-Familie-Arbeit: Wenn Herausforderungen zum Stress werden!". Baar, November 2017, Schweiz.

Leuchtmann, L. Stärkung der Partnerschaft der Eltern zum Wohle der Kinder (paarlife). Vortrag an der Tagung der Schweizerischen Vereinigung für Kinder- und Jugendpsychologie "Die Bedeutung der Partnerschaft und Familie für eine gesunde Entwicklung der Kinder". Zürich, März 2017, Schweiz.

Leuchtmann, L. & Kuhn, R. Stress am Tag - Streit am Abend: Was können wir als Paar dagegen tun? Vortrag an den Züricher Paartagen. Zürich, Februar 2017, Schweiz.

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Teaching

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