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Self-regulation in the Interplay of Individual Dispositions and Relationship Outcomes

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Summary

Even though humans strive to form long-lasting relationships (Baumeister & Leary, 1995), high divorce rates among industrialized countries (Centers for Disease Control and Prevention, 2019; European Commission, 2015) reflect how difficult it is to achieve this goal. As a consequence, researchers have set out to explore indicators and factors of successful relationships. An abundance of studies have identified individual dispositions as correlates of relationship quality (for an overview see Ozer & Benet-Martínez, 2006). However, their focus on global personality constructs has been criticized as those constructs might not be suited to explain specific psychological functioning (Winterheld & Simpson, 2018). Similarly, the underlying processes of the associations between individual dispositions and relationship outcomes have often been neglected and the need to study cognitive, emotional, motivational and behavioral processes has been pointed out (Back et al., 2011). The present research aims to address these gaps by focusing on the role of self-regulation. It takes suggestions of self-regulation researchers into account that emphasize that individual dispositions are expressed through self-regulatory processes (Hoyle, 2010; Scholer & Higgins, 2010). In addition, the research makes use of self-regulation theories that describe human goals and needs and thus, offer explanations as to why individuals respond in certain ways (Winterheld & Simpson, 2018).

Three research questions are derived and tested in three chapters of this dissertation. They take different theories of self-regulation into account to better understand distinct perspectives and processes of self-regulation in the interplay of individual dispositions and relationship outcomes. The first research question focused on whether emotion regulation mediates the association between insecure adult attachment (i.e., avoidance or anxiety) and relationship quality. Adults experience relationships differently depending on their attachment style (Hazan & Shaver, 1987) and both insecure attachment styles have been related to impaired relationship outcomes (e.g., Chung, 2014; Lowyck et al., 2008). During challenging situations, attachment styles are involved in individuals' affective self-regulatory responses (Mikulincer et al., 2003; Shaver & Mikulincer, 2002), and emotion regulation has been related to interpersonal outcomes (e.g., Gross & John, 2003). Thus, it was proposed that spontaneous emotion regulation during conflict discussions, mediates the link between adult attachment and relationship quality. Couples discussed an ongoing conflict of their relationships during a laboratory session and provided ratings on their emotion regulation and relationship quality with regard to the discussion. As expected, different emotion regulation strategies mediated the link of adult

attachment and relationship quality (e.g., by avoidant individuals engaging in more expressive suppression which was related to lower levels of relationship quality).

The second research question focused on implicit aspects of the emotion regulation strategy expressive suppression. Expressive suppression is one of the most frequently used emotion regulation strategies in social context and has been found to be negatively related to interpersonal outcomes (e.g., Butler et al., 2003; Gross et al., 2006; Impett et al., 2012). Many studies have focused on controlled aspects of expressive suppression, even though emotion regulatory processes can also be automatic (Gross, 1998b; Webb et al., 2015). Therefore, a measure of automatic emotion regulation tendencies (i.e., the Emotion Regulation Implicit Association Test; Mauss et al., 2006) was adapted to study implicit aspects of expressive suppression (i.e., Suppression-IAT) in relation to interpersonal outcomes. Couples completed the Suppression-IAT at a laboratory session in addition to measures on their relationship quality, and engaged in a videotaped conflict discussion that was used to rate their interaction behavior. At a 6-month follow-up, couples completed further measures on their relationship quality and communication patterns. As expected, a positive implicit evaluation of expressive suppression was negatively related to relationship outcomes, such as relationship satisfaction and positive partner communication. The results mirror findings on explicit aspects of expressive suppression and show that implicit aspects of emotion regulation are important in social context and should thus, be considered in future research to get a more complete picture on how emotion regulation shapes relationship functioning.

The third research question focused on underlying processes of the well-described link between self-esteem and relationship quality (for a review see Erol & Orth, 2016). Two studies tested if regulatory focus theory (Higgins, 1997) could explain how the regulatory foci (i.e., promotion or prevention focus) romantic partners adopt when discussing a conflict with their partners could be mediators of this link. Self-esteem was assessed with explicit and implicit measures to provide a picture of controlled and automatic processes. Regulatory focus was assessed via self-reports (Study 1) and by independent observers (Study 2), and partners rated their perceived relationship quality with regard to conflict interactions. The results show that regulatory focus plays a mediating role with regard to the association between self-esteem and relationship quality, and they show that those associations might differ for controlled and automatic processes (i.e., promotion focus mediated the link of implicit self-esteem and relationship quality, but not of explicit self-esteem and relationship quality).

In sum, the results presented in this dissertation contribute to the literature on the quality of romantic relationships. They demonstrate that self-regulation plays an important role in the

interplay of individual dispositions and relationship outcomes. They show that individual dispositions shape naturally occurring self-regulation tendencies during partner interactions, and that those affective, motivational or behavioral processes play a crucial role in how partners perceive their relationships. In addition, the results indicate that implicit and explicit processes need to be taken into consideration when studying relationship functioning.

Zusammenfassung

Auch wenn Menschen nach dauerhaften Beziehungen streben (Baumeister & Leary, 1995), spiegeln die hohen Scheidungsraten in Industrieländern (Centers for Disease Control and Prevention, 2019; Europäische Kommission, 2015) wider, wie schwierig es für viele Paare ist, dieses Ziel zu erreichen. Forschende untersuchen deshalb, was zu erfolgreichen Beziehungen beiträgt, und viele Studien haben herausgefunden, dass interindividuelle Dispositionen mit Beziehungsqualität zusammenhängen (für eine Übersicht siehe Ozer & Benet-Martínez, 2006). Allerdings fokussierten viele dieser Studien auf globale Persönlichkeitskonstrukte, obwohl diese nicht immer einen Beitrag zur Erklärung spezifischer psychologischer Prozesse leisten können (Winterheld & Simpson, 2018). Forschende haben außerdem darauf hingewiesen, dass diese Studien oft die den Zusammenhängen zugrunde liegenden Prozesse vernachlässigt haben und dass kognitive, emotionale, sowie Motivations- und Verhaltensprozesse mit einbezogen werden sollten (Back et al., 2011). Die vorliegende Arbeit zielt darauf ab, diese Lücken zu schließen. Sie konzentriert sich dabei auf Selbstregulation und folgt Annahmen der Selbstregulationsforschung, dass interindividuelle Dispositionen durch Selbstregulationsprozesse zum Ausdruck kommen (Hoyle, 2010; Scholer & Higgins, 2010). Die Arbeit fokussiert dabei auf spezifische Selbstregulationstheorien, die menschliche Ziele und Bedürfnisse beschreiben und dadurch Erklärungen dafür liefern, warum Individuen auf bestimmte Weise reagieren (Winterheld & Simpson, 2018).

In drei Kapiteln werden drei Forschungsfragen abgeleitet und getestet. Sie berücksichtigen unterschiedliche Theorien der Selbstregulation, um verschiedene Selbstregulationsprozesse im Zusammenspiel von interindividuellen und Beziehungsdispositionen besser zu verstehen. Die erste Forschungsfrage konzentrierte sich darauf, ob Emotionsregulation den Zusammenhang zwischen unsicherer partnerschaftlicher Bindung (d. h. Vermeidung oder Angst) und Beziehungsqualität vermittelt. Erwachsene erleben Beziehungen je nach ihrem Bindungsstil unterschiedlich (Hazan & Shaver, 1987) und beide unsichere Bindungsstile hängen negativ mit Beziehungsqualität zusammen (z. B. Chung, 2014; Lowyck et al., 2008). In herausfordernden Situationen sind Bindungsstile an affektiven selbstregulierenden Reaktionen der Partner beteiligt (Mikulincer et al., 2003; Shaver & Mikulincer, 2002), die wiederum im Kontext sozialer Beziehungen von großer Bedeutung sind (z. B. Gross & John, 2003). Deshalb wurde ein Modell abgeleitet, das testet, ob Emotionsregulation in Konfliktgesprächen unter Partnern den Zusammenhang zwischen unsicherer partnerschaftlicher Bindung und Beziehungsqualität mediiert. Um die Fragestellung zu testen, wurden Paare darum gebeten, während einer

Laborsitzung einen Konflikt ihrer Beziehung zu diskutieren, und danach Fragebögen zu ihrer Emotionsregulation und Beziehungsqualität in Bezug auf die Diskussion einschätzten. Wie erwartet, medierte verschiedene Emotionsregulationsstrategien den Zusammenhang zwischen partnerschaftlicher Bindung und Beziehungsqualität (zB. unterdrückten vermeidende Partner ihren Emotionsausdruck, was negativ mit ihrer Beziehungsqualität zusammenhing).

Die zweite Forschungsfrage konzentrierte sich auf implizite Aspekte der Emotionsregulationsstrategie Unterdrückung des Emotionsausdrucks. Diese Strategie ist eine der am häufigsten verwendeten Emotionsregulationsstrategien im sozialen Kontext und hängt meist negativ mit Beziehungsvariablen zusammen (z. B. Butler et al., 2003; Gross et al., 2006; Impett et al., 2012). Viele Studien haben kontrollierte Aspekte der Strategie untersucht, obwohl Emotionsregulationsprozesse auch automatisch ablaufen können (Gross, 1998b; Webb et al., 2015). Daher wurde ein Maß für automatische Emotionsregulationstendenzen, der implizite Assoziationstest zur Emotionsregulation (Mauss et al., 2006) angepasst, um implizite Aspekte der Unterdrückung des Emotionsausdrucks (d. h. Suppressions-IAT) in Bezug auf Partnerschaftsvariablen zu untersuchen. Während einer Laborsitzung absolvierten Paare den Suppressions-IAT und beantworteten Fragebögen zu ihrer Beziehungsqualität. Außerdem wurden sie gebeten, einen Konflikt ihrer Beziehung zu diskutieren. Diese Interaktion wurde auf Video aufgenommen, und das Interaktionsverhalten der Partner wurde von unabhängigen Beobachtern geratet. Sechs Monate nach der Laborsitzung beantworteten die Partner weitere Fragebögen zu ihrer Beziehungsqualität und ihren Kommunikationsmustern. Wie erwartet, hing eine positive implizite Einstellung zur Unterdrückung des Emotionsausdrucks negativ mit Beziehungsvariablen wie der Beziehungszufriedenheit und positiver Partnerkommunikation zusammen. Die Ergebnisse reflektieren Befunde zur expliziten Unterdrückung des Emotionsausdrucks und zeigen, dass implizite Aspekte der Emotionsregulation auch im sozialen Kontext wichtig sind und daher in zukünftigen Studien berücksichtigt werden sollten.

Die dritte Forschungsfrage konzentrierte sich auf die zugrunde liegenden Prozesse des gut bekannten Zusammenhangs zwischen Selbstwert und Beziehungsqualität (für eine Übersicht siehe Erol & Orth, 2016). Zwei Studien testeten, ob die Theorie des regulatorischen Fokus (Higgins, 1997) erklären kann, ob der regulatorische Fokus, den Partner während einer Konfliktdiskussion mit ihren Partnern einnehmen (d.h. Promotions- oder Präventionsfokus), diesen Zusammenhang medierte. Selbstwert wurde mit expliziten und impliziten Maßen erhoben, um ein umfassenderes Bild von kontrollierten und automatischen Prozessen zu erhalten. Der regulatorische Fokus wurde durch Selbstberichte (Studie 1) und durch unabhängige Beobachter (Studie 2) erhoben und die Partner bewerteten ihre Beziehungsqualität

mit Bezug auf Konfliktinteraktionen. Die Ergebnisse zeigen, dass regulatorischer Fokus den Zusammenhang zwischen Selbstwert und Beziehungsqualität vermitteln kann, und dass der Zusammenhang für kontrollierte und automatische Prozesse unterschiedlich sein kann. Zum Beispiel medierte der Promotionsfokus den Zusammenhang zwischen implizitem Selbstwert und Beziehungsqualität, aber nicht den Zusammenhang zwischen explizitem Selbstwert und Beziehungsqualität.

Die in dieser Dissertation präsentierten Ergebnisse tragen zur Partnerschaftsliteratur bei. Sie zeigen, dass Selbstregulation im Zusammenspiel von interindividuellen und Beziehungsdispositionen eine wichtige Rolle spielt. Sie zeigen, dass interindividuelle Dispositionen spontane Selbstregulationstendenzen im Laufe von Partnerinteraktionen prägen können und dass diese affektiven, motivationalen oder verhaltensbezogenen Prozesse eine wichtige Rolle dabei spielen, wie Partner ihre Beziehung wahrnehmen. Außerdem zeigen die Ergebnisse, dass implizite und explizite Prozesse bei der Untersuchung von Partnerschaften berücksichtigt werden sollten.

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List of Abbreviations

A	Actor effect	M	Mean
APIM	Actor-Partner-Interdependence Model	MSES	Multidimensional Self-Esteem Scale
APIMeM	Actor-Partner Interdependence Mediation Model	MSI-R	Marital Satisfaction Inventory – Revised
CFI	Comparative Fit Index	P	Partner effect
CI	Confidence interval	RAS	Relationship Assessment Scale
DFG	Deutsche Forschungsgemeinschaft	RIM	Reflective-impulsive model
ECR	Experiences in Close Relationships Scale	RMSEA	Root Mean Square Error of Approximation
ER-IAT	Emotion Regulation Implicit Association Test	RSE	Rosenberg Self-Esteem Scale
ERQ	Emotion Regulation Questionnaire	RSR	Relationship self-regulation
IAT	Implicit Association Test	SD	Standard deviation
ICC	Intra-class correlation	TLI	Tucker-Lewis Index
IDCS	Interactional Dimensions Coding System	WEIRD	Western, educated, industrialized, rich, and democratic
IOS	Inclusion of Other in the Self Scale		

1 Introduction

'Psychologist says maths can predict chances of divorce' (Radford, 2004), *'Love lab predicts marital outcome'* (Amos, 2004), or *'Science says lasting relationships come down to 2 basic traits'* (Smith, 2015) are just a few examples of headlines produced by the public's and media's continued interest in research predicting relationship stability and divorce. Yet, it is not surprising that many have a desire to learn what endangers their romantic relationship considering how important it is for humans to form enduring relationships (Baumeister & Leary, 1995). The relationship to a romantic partner is of special importance as romantic partners can provide continuous companionship and support, and couples often make plans for a shared future (Fincham et al., 2018). Thus, the dissolution of a romantic relationship can be a life course changing event that has been identified as one of the most stressful events in adults' lives (Mather et al., 2014). Divorce and separation have also been related to reduced levels of physical and mental health (Lorenz et al., 2006; Monden et al., 2015; Nielsen et al., 2014; Sbarra & Nietert, 2009). Yet, continuously high divorce rates in industrialized countries (Centers for Disease Control and Prevention, 2019; European Commission, 2015) show how many couples struggle in their relationships and it is understandable that many are interested in how they can nurture a satisfying and successful relationship.

Indeed, research has provided answers to these concerns. Researchers have identified a range of relationship quality components including commitment, trust, satisfaction, and closeness (Fletcher et al., 2000) and found an impressive number of indicators for these different aspects of relationship quality. They include external and partner-specific factors, such as stress, and partners' traits, cognitions, and behaviors (for overviews see Fincham et al., 2018; Gottman & Notarius, 2000; Randall & Bodenmann, 2009; Winterheld & Simpson, 2018). One of the concepts that has continued to spark interest among researchers in the context of romantic relationships is the partners' personality.

An individual's personality is comprised of a distinct collection of relatively stable individual dispositions that explain why individuals differ in their pattern of thoughts, feelings and reactions across situations and time (Allport, 1937). These individual differences affect a variety of aspects of individuals' lives, and social and romantic relationships are certainly no exception (for an overview see Ozer & Benet-Martínez, 2006). Indicators of relationship quality have been described as relationship dispositions – that is, relatively stable and interindividually different representations an individual holds in reference to another person, and researchers

have pointed out that individual dispositions (i.e., representations individuals hold in reference to themselves) and relationship dispositions are associated (Back et al., 2011). Empirical evidence supports this notion and has related different individual dispositions to indicators of relationship quality. For example, high self-esteem and agreeableness scores have been found to be beneficial for partners' perceived relationship quality, whereas neuroticism has been related to unfavorable relationship outcomes (e.g., Cundiff et al., 2012; Donnellan et al., 2004; Erol & Orth, 2013).

However, when studying the link between personality and relationship quality, researchers have heavily relied on individual-centered and self-report based approaches. In addition, the literature around relationship quality has been criticized for its lack of theoretical foundation and focus on global personality constructs that might not be suited to explain specific psychological functioning in romantic relationships (Fincham et al., 2018; Gottman & Notarius, 2002; Winterheld & Simpson, 2018). Yet, as data analysis methods accounting for the dyadic nature of couples have been developed (e.g., Kenny et al., 2006) and resulted in empirical evidence that one partner's individual dispositions are related to the other partner's perceptions and experiences of their relationship (i.e., interpersonal effects, see for example Erol & Orth, 2013; Malouff et al., 2010), the need to explain which processes and mechanisms are involved in effects between individual and relationship dispositions has become even more apparent (Back et al., 2011).

The present research aims to contribute to the literature on individual and relationship dispositions by focusing on self-regulation. A focus on self-regulation is worthwhile for several reasons: First, self-regulatory efforts have been described as an expression of individuals' dispositions, which has led to calls that self-regulatory processes should be integrated into personality research (Hoyle, 2010; Lanaj et al., 2012). Second, theories on self-regulation tap into fundamental human goals and needs and thus, offer explanations as to why individuals characterized by certain dispositions respond in certain ways and how this might affect interpersonal outcomes (Winterheld & Simpson, 2018). Third, studying self-regulation in the context of romantic relationships is especially important as romantic partners have developed an interdependency that includes the potential for conflicts and the need to self-regulate when expectations are not met (see for example Berscheid & Ammazalorso, 2004).

The next sections introduce self-regulation and a framework describing how studying self-regulatory processes might offer explanations with regard to the interplay of individual and relationship dispositions. In addition, different facets of self-regulation and their role with

regard to romantic relationships will be described. This introduction is followed by an overview of the research presented in this dissertation.

1.1 Self-regulation in social context

Self-regulation is generally understood as an individual's controlled or automatic use of strategies to induce a change in their thoughts, emotions, motivations and behaviors (Karoly, 1993). Theories stressing different aspects of self-regulation have been developed. For example, they mention a cycle of self-monitoring, goal setting, and evaluation that leads an individual to engage in self-regulatory efforts (e.g., Bandura, 1991). During this cycle, individuals observe their own thoughts, feelings and actions, as well as the causes and consequences of these responses. They evaluate these responses with regard to their own personal standards and set goals to increase desirable reactions or to reduce undesirable reactions (Bandura, 1991). Other theories on self-regulation place less emphasis on the cycle of self-awareness for goal setting, and instead focus on the sources of individuals' internalized behavioral standards to explain their self-regulatory needs and goals (e.g., Higgins, 1987). Yet, another string of research studied the strategies individuals use to reach their self-regulatory goals and found that individuals differ in their use of self-regulation strategies, and that those self-regulation goals and strategies can also be induced by situational context (Egloff et al., 2006; Gross & John, 2003; Higgins, 1997).

However, researchers have also stressed that the literature on self-regulation is incomplete if its relationship to personality is not considered (Hoyle, 2010; Lanaj et al., 2012; Levenson et al., 2014; Scholer & Higgins, 2010). Hoyle (2010) mentions different possibilities of integrating personality and self-regulation research and suggests a distal-proximal framework that represents individual dispositions as antecedents of self-regulatory outcomes. The framework works under the assumption that personality as preexisting individual dispositions is expressed through situated self-regulatory processes (see also Scholer & Higgins, 2010), and that individual dispositions, thus, function as distal factors initiating proximal self-regulatory factors on psychological outcomes (Hoyle, 2010). The distal-proximal framework dovetails propositions made by personality researchers suggesting that individual and relationship dispositions are associated due to situated processes during recurring social interactions (i.e., PERSOC; Back et al., 2011). According to the PERSOC framework, those interactions are characterized by social behaviors and interpersonal perceptions, that include non- and paraverbal behaviors, verbal content, but also perceptions of the own and the interaction partner's feelings, cognitions and motivations. The two frameworks are aligned in their

suggestion that individual dispositions are distal factors of psychological outcomes mediated through situated processes.

The present research transfers the suggestions of the distal-proximal framework and the PERSOC framework (Back et al., 2011; Hoyle, 2010) to the context of romantic relationships to study the associations of individual dispositions, self-regulation and relationship quality. Three research questions are derived from these frameworks, and tested with regard to specific variables (i.e., different individual dispositions, self-regulation strategies, and indicators of relationship quality). The following sections introduce those self-regulation strategies and explain why they are essential in the context of romantic relationships.

1.1.1 Emotion regulation

Studying emotion regulation with regard to romantic relationships is crucial as emotions are most likely to occur in a close, interpersonal context (Berscheid & Ammazzalorso, 2004; Gross et al., 2006). Emotion regulation refers to how individuals' influence the generation, experience and expression of emotions (Gross, 1998b). The self-regulatory cycle of self-monitoring and goal setting has been described in process models of emotion regulation (Gross, 2015). Following those models, the process of emotion regulation is initiated when individuals notice an emotional response (e.g., anger) due to a discrepancy between reality and their personal standards. As a consequence, further evaluation cycles can be triggered during which individuals assess the valence of the emotional response, which emotion regulation strategy might be appropriate due to their cognitive and physiological resources, and how a strategy can be tailored to the specific situation. Hence, individuals set goals to regulate (or not to regulate) the emotional response, to use a particular strategy, and to implement it (i.e., identification, selection, and implementation; Gross, 2015).

Individuals can engage in a range of emotion regulation strategies depending on the situation or their individual preferences. Those strategies include changing the situation or specific aspects of the situation (i.e., situation selection or situation modification), changing their interpretation of the situation (i.e., cognitive reappraisal), or modifying the expression of the emotional response itself (i.e., expressive suppression, for an overview see Gross, 1998b). Cognitive reappraisal and expressive suppression are the most studied emotion regulation strategies and it is now well established that individuals differ in their habitual use of those strategies (Gross & John, 2003). As a consequence, many studies concentrated on those aspects of emotion regulation and have shown that they are related to important parts of individuals' lives including relationships, well-being, and psychological adjustment (Gross & John, 2003; Hu et al., 2014; Nezlek & Kuppens, 2008).

However, those studies often applied an individual-centered approach even though emotions mainly occur in the presence of close others (Campos et al., 2011; Gross et al., 2006). Studying naturally occurring, spontaneous emotion regulation (cf. Egloff et al., 2006) in the context of the distal-proximal framework (Hoyle, 2010) described above, would thus, be a valuable contribution to the literature on emotion regulation, especially considering that individual dispositions have been mentioned as potential antecedents of spontaneous emotion regulation (Levenson et al., 2014). The research presented in Chapter 2 addresses this question by testing whether emotion regulation strategies romantic partners spontaneously engage in during interactions with their partners mediate between their attachment styles and relationship quality (a detailed introduction in Chapter 2 will describe the theoretical background of attachment and derive the specific hypotheses to this research question).

Another research gap among studies focused on individual differences of emotion regulation, is their omission of automatic aspects of emotion regulation. Even though the goal-oriented stages described in the process model of emotion regulation (Gross, 2015) sound deliberate, emotion regulation researchers agree that emotion regulation processes can be activated and completed outside of individuals' monitoring (e.g., Braunstein et al., 2017; Campos et al., 2011; Gross, 1998b, 2015; Gyurak et al., 2011; Webb et al., 2015). However, few studies focused on the assessment and outcomes of automatic aspects of emotion regulation. Building on research around the automation of goal pursuit and implementation intentions, researchers have argued that emotion regulatory processes become routinized into individuals' habitual emotion regulation tendencies and thus, can be assessed with the help of reaction-time based measures assessing a person's implicit attitudes towards emotion regulation (Gyurak et al., 2011; Mauss et al., 2006). They adapted the Implicit Association Test (IAT) to measure the strength of positive associations towards emotion regulation as an indication for an individual's emotion regulation tendencies (Mauss et al., 2006). The research presented in Chapter 3 builds on that approach and studies the interpersonal outcomes of implicit attitudes towards the emotion regulation strategy expressive suppression.

1.1.2 Regulatory focus

Promotion and prevention focus are well-established strategies of self-regulation. They are described in regulatory focus theory (Higgins, 1997), that is based on self-discrepancy theory (Higgins, 1987, 2012). Self-discrepancy theory makes assumptions on the sources of the internalized standards individuals use during the cycle of self-regulation. According to self-discrepancy theory, individuals differ in the way they represent goals or standards (so-called self-guides). While some represent goals as hopes and aspirations they aim to achieve (i.e., ideal

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self-guides), others represent goals as obligations and duties (i.e., ought self-guides; Higgins, 1987). As a consequence, individuals experience different emotions when they notice a discrepancy between the actual self and their self-guides. For example, when people notice a discrepancy to an ideal self-guide, they experience the absence of something positive and feel sad or disappointed for not reaching their aspirations. People noticing a discrepancy to an ought self-guide, however, experience it as the presence of something negative – not meeting their obligations – and feel rather anxious than disappointed (Higgins, 1987).

Regulatory focus theory builds on these assumptions but emphasizes that goals can be induced by the situation or task an individual faces, leading the individual to be “in a state of regulating in relation to hopes or wishes (ideals) or [...] in relation to duties or responsibilities (oughts)” (Higgins, 2012, p. 488). Thus, and most importantly, regulatory focus theory suggests that individuals use different strategies during goal pursuit depending on their regulatory focus orientation: Promotion-focused individuals, who adopted ideal goals, will aim to maximize growth and success, and as a result, look out for the presence and absence of positive stimuli and outcomes, and apply eager and creative strategies to achieve their goal. In contrast, prevention-focused individuals adopted ought goals and will aim to fulfill their obligations, and to minimize the risk of not reaching their goal. In consequence, they show a sensitivity to the presence and absence of negative stimuli and outcomes and engage in safe, conservative strategies that increase the likelihood of reaching their goal (Higgins, 1997; Werth & Förster, 2007). The description of these two fundamental self-regulatory processes have contributed to the theory being one of the most influential in motivation research. The foci have been related to a wealth of psychological outcomes, such as decision making, work-related and interpersonal outcomes (Lanaj et al., 2012; Molden & Finkel, 2010; Polman, 2012; Winterheld & Simpson, 2011). Many studies induced regulatory focus or assessed chronic regulatory focus (i.e., the tendency to adopt one focus over the other; Higgins, 1997), and few studies have investigated which focus individuals adopt spontaneously in certain situations. However it is important to learn what shapes naturally occurring self-regulation tendencies in everyday situations to better understand their effects on interpersonal functioning. Building on the distal-proximal framework and the PERSOC framework (Back et al., 2011; Hoyle, 2010) outlined above, the research presented in Chapter 4 aims to contribute to close this research gap. It studies spontaneous regulatory focus as mediating processes of the link between self-esteem and relationship quality during conflict interactions among romantic partners (a description of the theoretical background and the derived hypotheses is provided in Chapter 4).

1.2 Overview of the present research

The present research aims to contribute to the literature on romantic relationships by studying the role of self-regulation in the interplay of individual and relationship dispositions. Three research questions are derived taking different theories of self-regulation into account to look into distinct perspectives of the outlined frameworks on distal and proximal factors of interpersonal outcomes (Back et al., 2011; Hoyle, 2010). Hence, various self-regulation strategies are tested with regard to their specific associations with individual and relationship dispositions. The research is focused on conflict interactions among romantic partners because self-regulatory processes might be especially relevant when expectations towards the partner or the relationship remain unfulfilled (Berscheid & Ammazzalorso, 2004).

The research aims to provide a broad picture of self-regulatory processes. It therefore studies controlled and automatic processes in relation to self-regulation. Dual-process models suggest that individuals process information about themselves and others through explicit and implicit structures that guide behavior through controlled and automatic processes (e.g., Strack & Deutsch, 2015). Dispositions are thus, considered as explicit and implicit representations of the self and relationships (Back et al., 2011), and implicit self-evaluations of dispositions have been assessed with the help of the Implicit Association Tests (IATs; e.g. Klavina et al., 2012; Schmukle et al., 2008) that measure individuals' implicit attitudes towards a concept. Therefore, the present research makes use of IATs with regard to interindividual differences in emotion regulation (Chapter 3) and self-esteem (Chapter 4) to tap into automatic processes with regard to self-regulation.

Furthermore, the present research studies interpersonal effects (e.g., the association between one partner's individual dispositions and the other partner's relationship experience) alongside intrapersonal effects (e.g., the association between one partner's individual dispositions and their own relationship experience). This is important because romantic partners influence each other's thoughts, perceptions, and behaviors, and are affected by external circumstances in similar vein (e.g., Kenny, 1996; Woody & Sadler, 2005). Thus, couple data is non-independent (i.e., two romantic partners show higher correlations on many variables than would be expected by random chance), which needs to be taken into account by including data of both partners, and by using data analysis techniques that control for the statistical dependency (e.g., Actor-Partner Interdependence Models, APIMs; Kenny et al., 2006). Interpersonal associations have been found with regard to individual and relationship dispositions (Cundiff et al., 2012; Erol & Orth, 2013; Malouff et al., 2010) stressing the need to explain the underlying processes and

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mechanisms of these associations (Back et al., 2011). The present research looks into these associations with regard to self-regulatory processes.

Chapters 2 to 4 present the three research questions of this dissertation and their results. Each chapter provides a separate theoretical introduction deriving the respective research questions, a description of the materials and results, and a discussion of the results. An overview of the variables used in this dissertation is displayed in Figure 1. The research presented in Chapter 2 studies whether emotion regulatory processes mediate the association of insecure adult attachment and relationship quality. Romantic partners experience relationships differently depending on whether they are characterized by avoidant or anxious attachment (Hazan & Shaver, 1987; Hudson & Fraley, 2017). Both attachment styles are related to impaired relationship quality (e.g., Chung, 2014; Lowyck et al., 2008) but past research has not focused on mediating processes of this link. Attachment researchers suggest that attachment styles shape individuals' emotional responses when confronted with challenging situations as avoidant versus anxious individuals engage in deactivating versus hyperactivating strategies, respectively (Mikulincer et al., 2003; Shaver & Mikulincer, 2002). Those considerations and past research demonstrating that emotion regulation is important in interpersonal functioning (e.g., Gross & John, 2003) formed the basis of the proposed mediation. In order to test the hypotheses, couples were asked to engage in a conflict discussion, and to complete measures on their emotion regulation and relationship quality with regard to the discussion. The results show that, as expected, insecure attachment styles were related to specific emotion regulation strategies during the situation that in turn were related to relationship quality after the discussion, and indicate that emotion regulatory processes are involved in the link between adult attachment and relationship outcomes.

Chapter 3 is focused on the role of implicit expressive suppression in social context. Expressive suppression, as one of the emotion regulation strategies individuals frequently use in their daily lives (Gross et al., 2006), has been found to shape interpersonal outcomes, such as reduced interaction and relationship quality (e.g., Butler et al., 2003; Impett et al., 2012). However, many studies focused on controlled processes of expressive suppression, even though emotion regulatory processes can also be automatic (Gross, 1998b; Webb et al., 2015). Building on dual-process models (e.g., Deutsch & Strack, 2006), automatic emotion regulation tendencies have been measured with an Implicit Association Test (ER-IAT; Mauss et al., 2006). For the research presented in Chapter 3, the ER-IAT was adapted to measure implicit attitudes towards expressive suppression (Suppression-IAT). Couples completed the Suppression-IAT at a laboratory session alongside measures on their relationship quality. In addition, they

engaged in a videotaped conflict discussion, that was used to rate their interaction behavior during the discussion, and they completed further measures on their relationship quality and communication patterns at a 6-month follow-up. Overall, the results confirmed the hypotheses that a positive implicit evaluation of expressive suppression was negatively related to relationship quality and positive partner communication; but the results also indicated differences in the associations for male and female partners (for example on relationship satisfaction). The results are a first indication that implicit aspects of expressive suppression are important with regard to how romantic partners communicate and how they perceive the quality of their relationships. They demonstrate that those aspects need to be taken into consideration to acquire a better understanding of what is involved in emotion regulatory and relationship processes, but further research is needed to better understand the conditions under which these effects emerge.

In Chapter 4, two studies focused on the question if situated regulatory foci mediate the association of self-esteem and relationship quality. Many studies have shown that high self-esteem individuals and their intimate partners report high levels of relationship quality but only few have focused on the underlying processes (for a review see Erol & Orth, 2016). The predictions of regulatory focus theory (Higgins, 1997) were used to explain how the regulatory foci romantic partners adopt when discussing a conflict with their partners could be mediators of this link. Study 1 was conducted as an online study asking participants to recall a conflict discussion with their partners. In Study 2, couples engaged in a conflict discussion during a laboratory session. Self-esteem was assessed with explicit and implicit measures to investigate controlled and automatic processes. Situated regulatory focus was assessed via self-reports (Study 1) and by independent observers (Study 2), and partners provided ratings on how satisfied they were after the discussion. In addition, interpersonal behavior processes during the discussion were assessed in Study 2. Overall, the results show that situated promotion and prevention foci play a mediating role with regard to the association between self-esteem and relationship quality. For example, in Study 2, individuals with high implicit self-esteem were rated as more promotion-focused, and promotion-focused individuals showed more positive interpersonal behavior during the discussion, which was related to higher levels of relationship satisfaction after the discussion. However, the mediating role of promotion focus could not be shown with regard to explicit self-esteem, which might be an indication of the importance of automatic processes. In addition, the results demonstrate that individuals' dispositions affect spontaneous (i.e., naturally occurring) self-regulation tendencies and that motivational and

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behavioral processes during social interactions play a crucial role in the interplay of individual and relationship dispositions (Back et al., 2011; Hoyle, 2010).

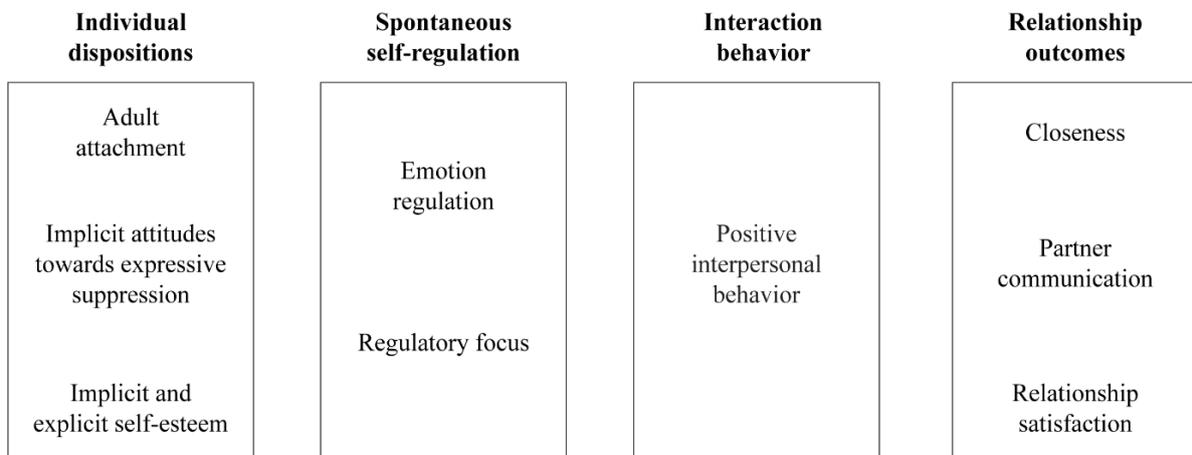


Figure 1. Overview of the variables used in this dissertation to study the interplay of individual dispositions, self-regulation, interaction behavior, and relationship outcomes among romantic partners.

2 Emotion regulation strategies as mediators of insecure adult attachment and relationship quality

Adults with an insecure attachment style (i.e., high scores on one of the dimensions avoidance or anxiety; Brennan et al., 1998) seek different characteristics in their romantic relationships. While avoidant individuals feel a lack of trust towards their partners and prefer to maintain their distance, anxious individuals fear that their partner might reject them and aim to ensure emotional intimacy (Hazan & Shaver, 1987; Hudson & Fraley, 2017). Despite these differences, both patterns have been shown as maladaptive with regard to relationship outcomes: Many studies have found that avoidantly and anxiously attached adults are not satisfied with their relationships (Chung, 2014; Erol & Orth, 2013; Lowyck et al., 2008; Meyers & Landsberger, 2002), and that they report lower levels of relationship quality on a range of indicators (Li & Chan, 2012). In addition, research has shown that their relationship satisfaction decreases over the course of time and that the partners of insecurely attached individuals report lower levels of relationship quality as well (see meta-analyses by Candel & Turliuc, 2019; Hadden et al., 2014). Attachment research has studied moderators of this link, such as gender, relationship status, and relationship duration (for overviews see Candel & Turliuc, 2019; Hadden et al., 2014), but research on the underlying processes of this link is rare. This is surprising considering that attachment researchers have pointed out that adult attachment styles shape individuals' patterns of cognitive, affective, and behavioral responses during challenging situations (Mikulincer et al., 2003; Shaver & Mikulincer, 2002). Those considerations mirror suggestions that individual dispositions are expressed through online, self-regulatory processes, and that cognitive, emotional and behavioral processes during social interactions mediate the link of individual dispositions and interpersonal outcomes (Back et al., 2011; Hoyle, 2010). The research presented in this chapter builds on those suggestions, and studies whether spontaneous emotion regulation during conflict discussions among romantic partners plays a mediating role in the link of insecure adult attachment and reduced relationship quality. This is worthwhile for several reasons: Emotion regulation processes are very frequent and relevant with regard to social relationships and interpersonal functioning (e.g., Gross et al., 2006; Gross & John, 2003), and they are likely to occur in close relationships when conflicts arise due to unmet expectations (Berscheid & Ammazzalorso, 2004). In addition, conflicts among romantic partners can be perceived as unsettling situations that require support from a significant other, which, according

to attachment researchers, elicits the unique pattern of avoidantly versus anxiously attached individuals' responses (Mikulincer et al., 2003).

2.1 Adult attachment styles

In line with early theorizing (Bowlby, 1969, 1973), adult attachment theories (e.g., Mikulincer et al., 2003) state that adults differ in attachment styles due to their attachment-relevant experiences in early life. Following those theories, situations when children perceive threats and the need to seek for an attachment figure's support, as well as the attachment figures' responses to these efforts of proximity seeking are crucial for the development of attachment styles as they lead to different states of mind (Shaver & Mikulincer, 2002). The experience of non-reward or punishment during proximity seeking leads individuals to adopt deactivating strategies (i.e., not relying on others or distancing themselves from threat-related cues altogether) in order to reduce such non-rewarding experiences (Cassidy & Kobak, 1988; Mikulincer et al., 2003; Shaver & Mikulincer, 2002). Deactivating strategies are a central feature of attachment avoidance. For example, avoidant individuals are less attentive to attachment-relevant information (Fraley & Shaver, 2000) and inhibit thoughts eliciting distress and feelings of vulnerability (Fraley & Shaver, 1997; Mikulincer et al., 2000).

In contrast, the experience of helplessness and attachment figures' inconsistency or unavailability during proximity seeking, is assumed to lead individuals to engage in hyperactivating strategies, that is, a constant search for threat-related cues and an increased effort to obtain support (Cassidy & Kobak, 1988; Mikulincer et al., 2003; Shaver & Mikulincer, 2002). Hyperactivating strategies are characteristic of attachment anxiety. Anxious individuals focus on negative emotions and distress after negative events (Gentzler et al., 2010; Kobak & Sceery, 1988), and they report more negative emotion expression and support seeking (Nisenbaum & Lopez, 2015). Taken together, those results demonstrate that adult attachment styles shape regulatory processes in general, and emotional responses in particular.

2.2 Adult attachment, emotion regulation and relationships

Emotion regulation refers to processes individuals use to raise, sustain or reduce the experience and expression of positive and negative emotions they have (Gross, 1998b; Parrott, 1993). Habitual emotion regulation has been found to be important for interpersonal functioning (e.g., Gross & John, 2003), and therefore, researchers have called for studies investigating intrapersonal and interpersonal effects of emotion regulation during social interactions (Campos et al., 2011; Levenson et al., 2014). The research presented in this chapter studies four

different strategies of emotion regulation (i.e., expressive suppression, cognitive reappraisal, perspective taking, and aggressive externalization) during actual social interactions among romantic partners. Some of the strategies have been shown to have positive (e.g., cognitive reappraisal) social consequences, while others (e.g., expressive suppression) are often related to negative social outcomes. In addition, the strategies represent primarily intrapersonal processes (e.g., cognitive reappraisal) or include the interaction partner (e.g., perspective taking). Moreover, following the model described by attachment researchers (Mikulincer et al., 2003; Shaver & Mikulincer, 2002), they can be described as deactivating (e.g., expressive suppression) or hyperactivating (e.g., aggressive externalization).

Expressive suppression (i.e., inhibiting the expression of emotional responses; Gross & Levenson, 1993) has been shown to have maladaptive intrapersonal and interpersonal consequences: Suppressors experience more negative and less positive emotions, feel less authentic during social interactions, and are perceived to have less close relationships (Butler et al., 2003; Gross & John, 2003; Impett et al., 2012). Furthermore, suppressors and their partners report low levels of relationship quality (Impett et al., 2012). In the context of adult attachment, expressive suppression can be considered as an example of a deactivating strategy and it has already been linked to attachment avoidance in empirical studies: As avoidant individuals try to distance themselves from threats and avoid displaying vulnerability, they also suppress the expression of emotions (Gross & John, 2003; Nisenbaum & Lopez, 2015; Winterheld, 2015).

Cognitive reappraisal includes changing the emotional impact of a situation by re-interpreting its emotion-eliciting stimuli (Gross, 1998a; Speisman et al., 1964). Cognitive reappraisal has been linked to adaptive interpersonal outcomes: For example, individuals engaging in cognitive reappraisal report higher levels of relationship quality (Finkel et al., 2013) and have been rated to have closer relationships (Gross & John, 2003). In the context of adult attachment, cognitive reappraisal has been discussed as a deactivating strategy (Mikulincer et al., 2003; Mikulincer et al., 2004; Mikulincer & Shaver, 2003), which would suggest a link to attachment avoidance. However, empirical findings have been inconsistent: Cognitive reappraisal was positively (Land et al., 2011) or non-significantly (Gross & John, 2003) related to avoidant adult attachment, but it was negatively related to adolescents' attachment anxiety towards their parents (Tatnell et al., 2014).

Perspective taking (i.e., trying to recognize and understand others' thoughts, intentions and perspectives; Blair, 2005; Davis, 1980; Franzoi et al., 1985) is considered as an adaptive and interpersonal emotion regulation strategy (Benecke et al., 2008; Zaki & Williams, 2013). If one

partner engages in perspective taking, both partners report higher levels of relationship quality (Franzoi et al., 1985; Seehausen et al., 2012). With regard to adult attachment, perspective taking has been negatively associated with avoidance (Corcoran & Mallinckrodt, 2000; Joireman et al., 2002), suggesting that avoidant individuals might even avoid understanding others as they attempt to not perceive negative or threatening information.

Aggressive externalization is an emotion regulation strategy that includes a person's attempts to start an argument with another person, venting negative emotions, and blaming another person for one's emotions (Benecke et al., 2008; Grob & Horowitz, 2014; Grob & Smolenski, 2005), which is maladaptive with regard to interpersonal relationships (e.g., Bettencourt et al., 2006). In the context of adult attachment, aggressive externalization represents a hyperactivating strategy that should be related to attachment anxiety (Mikulincer et al., 2003). Previous research has linked attachment anxiety to higher levels of venting (Jerome & Liss, 2005) and anger expression (Nisenbaum & Lopez, 2015). Besides, anxious individuals concentrate on negative emotions, negative information, and distress (Gentzler et al., 2010), which might feed into blaming their partner and starting a dispute.

The reviewed literature provides an overview of the associations of adult attachment, emotion regulation and relationship outcomes. However, adult attachment research often studies individual associations between attachment styles and its outcomes, without controlling for the other style or other processes. In addition, many studies on emotion regulation either manipulate emotion regulation, ask their participants to imagine or recall their emotional responses in social interactions or investigate dispositional aspects of emotion regulation. However, when instructing participants to use a particular strategy, it remains unclear whether participants would feel comfortable to use these strategies and indeed engage in them spontaneously when given a choice. Besides, participants might not be able to imagine their responses, and memory effects might affect their responses when they need to recall their responses during previous interactions. Yet, considering that challenging situations are considered to elicit the self-regulation tendencies of avoidantly versus anxiously attached individuals (Mikulincer et al., 2003), it is important to study their spontaneous responses during real interactions.

2.3 Overview of the present research

The research presented in this chapter is focused on taking a closer look at the link between adult attachment and relationship quality assuming that emotion regulatory processes might be mediators of this link. In order to investigate the proposed mediation, romantic partners were

asked to engage in different social interactions in the laboratory (i.e., a neutral baseline conversation and a conflict discussion), and to complete measures of emotion regulation and relationship quality with regard to these interactions. The research design takes into account that most emotion relevant situations are interpersonal (Gross et al., 2006) and that many emotion regulation strategies can only be chosen in social context because they include a partner (e.g., perspective taking). Considering the dyadic nature of romantic relationships and social interactions (Kenny et al., 2006), the present study employed a dyadic design (i.e., all variables were assessed of both partners) which allowed investigating interpersonal effects (so called ‘partner effects’) of the relevant variables.

To address the shortcomings of past studies on emotion regulation mentioned above, the present study assessed naturally occurring (‘spontaneous’; Egloff et al., 2006) emotion regulation strategies. Spontaneous emotion regulation was measured right after the partners had interacted with each other (i.e., after the neutral baseline conversation and again after the conflict discussion). Stressful situations bearing attachment related threats (e.g., the partner’s non-responsiveness or unmet expectations; Berscheid & Ammazzalorso, 2004) trigger different emotional responses and emotion regulation strategies depending on an individual’s attachment style (Mikulincer et al., 2003; Mikulincer & Shaver, 2003). Therefore, the hypotheses focused on whether emotion regulation during the conflict discussion mediated the link of adult attachment and relationship outcomes while controlling for the neutral baseline conversation.

As described above, avoidant and anxious individuals show a distinct pattern of self-regulation engaging in deactivating versus hyperactivating strategies, respectively. Avoidant individuals aim to distance themselves from negative or threatening cues, while anxious individuals focus on negative cues in their effort to obtain their partner’s support (e.g., Mikulincer et al., 2003). The emotion regulation strategies used in this research were mapped onto the deactivating-hyperactivating model and specific hypotheses were proposed as to which emotion regulation strategy would mediate the link between avoidant attachment or anxious attachment and relationship quality. It was expected that expressive suppression and perspective taking would mediate the association of attachment avoidance and relationship quality as avoidant individuals aim to distance themselves from negative or threatening cues. Aggressive externalization was expected to mediate the association of attachment anxiety and relationship quality as anxious individuals focus on negative cues when trying to secure their partner’s support. Given inconsistent findings in the literature, no specific hypotheses regarding the mediating role of cognitive reappraisal between the link of attachment styles and relationship quality were proposed. When deriving the hypotheses, the positive versus negative

interpersonal outcomes of the emotion regulation strategies (as described above) were taken into consideration. Thus, it was expected that expressive suppression and aggressive externalization during the conflict discussion would be negatively related to relationship quality after the discussion and that cognitive reappraisal and perspective taking during the discussion would be positively related to relationship quality after the discussion. In addition, as emotion regulation strategies have been shown to have interpersonal outcomes, partner effects between emotion regulation and relationship quality were expected (i.e. one partner's emotion regulation strategy during the conflict discussion was expected to be related to their partner's ratings of relationship quality after the discussion).

In detail, the following hypotheses were proposed: It was expected that expressive suppression would mediate the association of attachment avoidance, and relationship quality through a positive association of attachment avoidance and expressive suppression, and a negative association of expressive suppression and relationship quality (Hypothesis 1). It was expected that perspective taking would mediate the association of attachment avoidance and relationship quality through a negative association of attachment avoidance and perspective taking, and a positive association of perspective taking and relationship quality (Hypothesis 2). Aggressive externalization was expected to mediate the association of attachment anxiety and relationship quality through a positive association of attachment anxiety and aggressive externalization, and a negative association of aggressive externalization and relationship quality (Hypothesis 3). As described above, no specific hypothesis was proposed on whether cognitive reappraisal would mediate the link between attachment avoidance and relationship quality or between attachment anxiety and relationship quality but it was included into the research to further the knowledge on its associations with adult attachment.

2.4 Method

2.4.1 Procedure

Data of the EMIPIA study¹ were used to test the hypotheses proposed above. Heterosexual couples were recruited via mailing lists, flyers, and radio and newspaper announcements.

¹ The data of this study were collected in the context of a DFG-project on romantic relationships awarded to Michela Schröder-Abé, and have led to three publications: Schröder-Abé and Schütz (2011) found that perspective taking (rated by the experimenter) mediated the link between emotional intelligence and relationship quality in a subsample of 80 couples. Vater and Schröder-Abé (2015) showed that emotion regulation, interpersonal behavior and state

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Couples were screened via telephone for inclusion criteria (being in a heterosexual relationship of at least 6 months, minimum age of 18 years, not seeking therapy), and received a set of questionnaires to complete at home that included demographic variables and constructs unrelated to this research. Data of the partners were matched with the help of anonymous codes.

About two weeks later, couples were invited to the laboratory, seated at two separate desks and asked to complete further measures independently from each other. The questionnaires included a measure of adult attachment, the problem list by Hahlweg (1996), and measures unrelated to this research. The problem list asked participants to rate the extent of disagreement with their partner concerning common relationship conflicts (e.g., leisure time, finances, and house chores). Following the set of questionnaires, participants underwent two 10-minute conversation settings (Levenson & Gottman, 1983) that have widely been used in relationship and emotion regulation research as they provide the possibility for a great variety of spontaneous emotions to be elicited (Roberts et al., 2007). Both conversations were videotaped in order to answer research questions unrelated to the present study.

During the conversations, participants were seated at a sofa (that included a coffee table with drinks and snacks) in order to create an informal and comfortable atmosphere. The first 10-minute conversation served as a neutral baseline and couples talked about the events of the day. During the second conversation, couples were to discuss a current and serious conflict of their relationship. With the help of the experimenter, couples chose a topic based on their ratings on the problem list. Criteria for selecting a topic were that both partners agreed to discuss the topic in the laboratory, and that the topic was indeed a current and meaningful one and thus, appropriate for the generation of emotions. The couples were asked to discuss the chosen topic for 10 minutes and to find an approach towards its solution. Both conversations were followed by a set of questionnaires assessing emotion regulation and relationship quality with regard to the conversations as well as further measures unrelated to the present study. Finally, participants were debriefed, thanked and given compensation for participation (20€ and individual feedback on their personality traits).

relationship satisfaction mediated the effects of the Big Five on long-term relationship satisfaction. Geisler and Schröder-Abé (2015) showed that self-regulatory strength moderated the relation between expressive suppression, negative affect and positive interpersonal outcomes in a subsample of 102 men.

2.4.2 Participants

Participants (N = 137 heterosexual couples) were aged 18 to 78 years. The mean age was 31.0 years ($SD = 12.8$ years) for female and 32.8 years ($SD = 12.7$ years) for male participants. Relationship duration ranged from 6 months to 57 years, with a mean of about 10 years ($M = 117.0$ months, $SD = 138.0$ months). Ninety one couples (66.4 %) were cohabiting, 50 couples (36.5 %) were married, and 11 participants (4.0%) were divorced and engaged in a new relationship.

2.4.3 Materials

2.4.3.1 Adult attachment.

The German adaptation of the Experiences in Close Relationships Scale (ECR; Brennan et al., 1998) by Neumann and colleagues (2007) was used to measure adult attachment. Eighteen items served to assess attachment avoidance (e.g., ‘I find it difficult to allow myself to depend on romantic partners.’), and 18 items assessed attachment anxiety (e.g., ‘I worry a fair amount about losing my partner.’) on a 7-point Likert scale ranging from 1 (*not at all*) to 7 (*totally*).

2.4.3.2 Emotion regulation.

A self-report questionnaire to assess emotion regulation was developed for the present study. Items of respective trait measures (Benecke et al., 2008; Gross & John, 2003) were adapted to the interactions used in the study. The items were pre-tested (Haase, 2009) and combined to four subscales: expressive suppression (4 items, e.g., ‘I tried to control my emotions by not expressing them.’), cognitive reappraisal (2 items, e.g., ‘I tried to feel less negative emotions by changing what I was thinking.’), perspective taking (2 items, e.g., ‘I tried to understand what my partner might be thinking.’), aggressive externalization (4 items, e.g., ‘I tried to act out my emotions on my partner.’). Participants were asked to rate these items on a 6-point Likert scale labelled 1 (*not at all*) to 6 (*totally*) after each of the conversations.

2.4.3.3 Relationship quality.

Participants completed the Inclusion of Other in the Self Scale (IOS; Aron et al., 1992) after each of the conversations. They were asked to select one of seven Venn diagrams that contained two circles representing the self and the partner with increasing degree of overlap indicating the couple’s interconnectedness.

2.5 Results

Table 1 shows reliability estimates and descriptive statistics of all variables, as well as the results of paired samples *t*-tests and correlations² between male and female participants' scores. To test the hypotheses, an adapted version of the Actor-Partner Interdependence Mediation Model (APIMeM; Ledermann & Bodenmann, 2006) was specified. This allowed taking the nonindependent data structure into consideration and it allowed testing partner effects (i.e., interpersonal effects of one partner's exogenous variable on the other partner's endogenous variable) in addition to actor effects (i.e., intrapersonal effects of one partner's exogenous variable on his or her own endogenous variable). Figure 2 shows an overview of the specified model that includes the paths relevant for the hypotheses³. In addition, the model included emotion regulation and relationship quality variables with regard to the everyday conversation (between adult attachment and emotion regulation during conflict; these paths are not shown in Figure 2) to control for the neutral baseline interaction. Furthermore, all possible paths were specified in the model (i.e., all actor and partner paths not depicted in the figure) and correlations between the exogenous variables and between the residuals of the endogenous variables were included to test unbiased effects of the competing mediators (Preacher & Hayes, 2008). The model was specified in MPlus 7.31 (Muthén & Muthén, 2015) using maximum likelihood parameter estimation, and full information maximum likelihood to deal with missing values. Bootstrapping with 5000 bootstrap samples and bias-corrected confidence intervals was applied to test the indirect effects (Preacher & Hayes, 2008).

The paths for male and female participants were constrained to be equal (Kenny et al., 2006) but the fully restricted model ($df=106$) did not show satisfactory model fit ($\chi^2 = 129.368$; $p = .061$; CFI = .972; TLI = .928; RMSEA = .040; 90% CI [.000, .062]; Schermelleh-Engel et al., 2003). Inspecting the model modification indices showed that the partner path between attachment anxiety and cognitive reappraisal during the conflict discussion could not be constrained to be equal for male and female participants. Freeing this path led to a model ($df = 105$) with good model fit ($\chi^2 = 114.267$; $p = .252$; CFI = .989; TLI = .971; RMSEA = .025; 90% CI [.000, .052]). *B*'s are reported that can be interpreted as standardized coefficients as all

² Within- and between-person correlations between all variables for male and female participants are presented in the appendix (Table A1 and Table A2, respectively). However, they do not take the dyadic data structure into account and should thus not be interpreted.

³ Results of all paths can be found in the appendix (Table A3).

variables were standardized before specifying the model⁴ to enable comparing the coefficients. The results show that avoidant individuals reported engaging in higher levels of expressive suppression during the conflict discussion ($B = .154$; $p = .034$) and there was a tendency of avoidant individuals to report engaging in lower levels of perspective taking during the conflict discussion ($B = -.120$; $p = .071$, actor paths), but the effect missed conventional levels of significance. The actor paths between avoidance and cognitive reappraisal during the conflict discussion ($B = -.026$; $p = .747$) and between avoidance and aggressive externalization during the conflict discussion ($B = .015$; $p = .840$) were not significant. Anxious individuals reported engaging in higher levels of aggressive externalization during the conflict discussion ($B = .126$; $p = .031$; actor effect), and the actor paths between anxious attachment and all other emotion regulation strategies during the conflict discussion were not significant (expressive suppression: $B = -.060$; $p = .213$; cognitive reappraisal: $B = -.050$; $p = .434$; perspective taking $B = -.001$; $p = .992$). With regard to the associations of emotion regulation during the conflict discussion and relationship quality after the conflict discussion, the actor effect ($B = -.176$; $p = .014$) but not the partner effect ($B = .060$; $p = .331$) between expressive suppression and relationship quality was significant indicating that individuals engaging in expressive suppression during the conflict discussion felt less close to their partner after the discussion. Cognitive reappraisal was not significantly related to relationship quality (actor effect: $B = -.010$; $p = .868$; partner effect: $B = .042$; $p = .454$). Perspective taking showed a significant positive actor ($B = .181$; $p = .003$) but no significant partner ($B = .075$; $p = .227$) effect to relationship quality, indicating that individuals engaging in perspective taking during the conflict discussion felt closer to their partner after the discussion. Aggressive externalization had negative actor ($B = -.179$; $p = .003$) and partner ($B = -.174$; $p = .005$) effects on relationship quality. Those results indicate that individuals engaging in aggressive externalization during the conflict discussion and their partners felt less close to their partners after the discussion.

To test the hypotheses, indirect effects were inspected (all indirect effects can be found in Table 2). As recommended by Hayes (2013), hypotheses were considered as supported if the indirect effect was significant on the 95% bootstrap confidence intervals. Hypothesis 1 was

⁴ This is necessary because the standardized coefficients produced by the statistics software would differ for male and female participants due to different standard deviations, even if the paths were restricted to be equal. As recommended for dyadic data, each variable was standardized using the full sample instead of male and female variables separately (Kenny et al., 2006).

partially supported. The indirect actor effect of attachment avoidance on relationship quality via expressive suppression was significant ($B = -.027$; 95% CI $[-.073, -.003]$), but the partner effect was not ($B = .009$; 95% CI $[-.006, .043]$). The result indicates that avoidant individuals engaged in higher levels of expressive suppression during the conflict discussion, which in turn was negatively related to their relationship quality (but not to their partner's relationship quality). Similarly, Hypothesis 2 was partially supported. The indirect actor effect of attachment avoidance on relationship quality via perspective taking was significant ($B = -.022$; 95% CI $[-.059, -.002]$), but the partner effect was not ($B = -.009$; 95% CI $[-.038, .003]$). The result indicates that avoidant individuals engaged in lower levels of perspective taking during the conflict discussion, and that perspective taking during the conflict discussion was positively related to their relationship quality (but not to their partner's relationship quality). Hypothesis 3 was supported as the indirect actor and partner effects of attachment anxiety on relationship quality via aggressive externalization were significant (actor: $B = -.022$; 95% CI $[-.059, -.002]$; partner: $B = -.022$; 95% CI $[-.057, -.002]$). The result indicates that anxious individuals engaged in higher levels of aggressive externalization during the conflict discussion, which in turn was negatively related to their relationship quality and their partner's relationship quality. Cognitive reappraisal during the conflict discussion did not mediate the association of attachment avoidance or attachment anxiety and relationship quality as all indirect effects were not significant (see Table 2). In addition, Table 2 shows that the indirect effects that were not expected to be significant (e.g., the association of attachment anxiety and relationship quality via expressive suppression) were indeed not significant. This is a further indication, that specific emotion regulation strategies mediated the link between either attachment avoidance or attachment anxiety and relationship quality.

Table 1

Internal consistencies, descriptive statistics, paired samples t-tests, and correlations between female and male partners' scores

		α	Women		Men		t	df	$r_{\text{♂♀}}$
			M	SD	M	SD			
Adult	Avoidance	.833	2.18	0.68	2.30	0.68	-1.75†	136	.258***
attachment	Anxiety	.848	3.34	0.91	3.11	0.86	2.07*	136	-.134
Emotion	Expressive suppression during baseline	.806	2.10	0.91	2.26	1.00	-1.52	134	.214*
regulation	Cognitive reappraisal during baseline	.783	1.97	1.16	1.76	0.98	1.38	129	-.061
	Perspective taking during baseline	.797	4.32	1.23	4.12	1.26	1.35	133	.017
	Aggressive externalization during baseline	.670	1.78	0.81	1.66	0.73	1.60	128	.324***
	Expressive suppression during conflict	.772	1.97	0.81	2.40	0.93	-4.38***	129	.148†
	Cognitive reappraisal during conflict	.863	1.96	1.10	1.81	1.01	0.76	126	-.046
	Perspective taking during conflict	.839	4.61	1.14	4.48	1.23	0.84	129	.124
	Aggressive externalization during conflict	.841	2.39	1.19	2.19	1.11	1.67†	125	.378***
Relationship	after baseline	n.a.	5.22	1.29	5.48	1.33	-1.92†	134	.195*
quality	after conflict	n.a.	4.66	1.57	4.80	1.65	-0.99	129	.326***

Note. α = Cronbach's α ; $r_{\text{♂♀}}$ = zero-order correlations between male and female partners' scores; n.a. not applicable.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

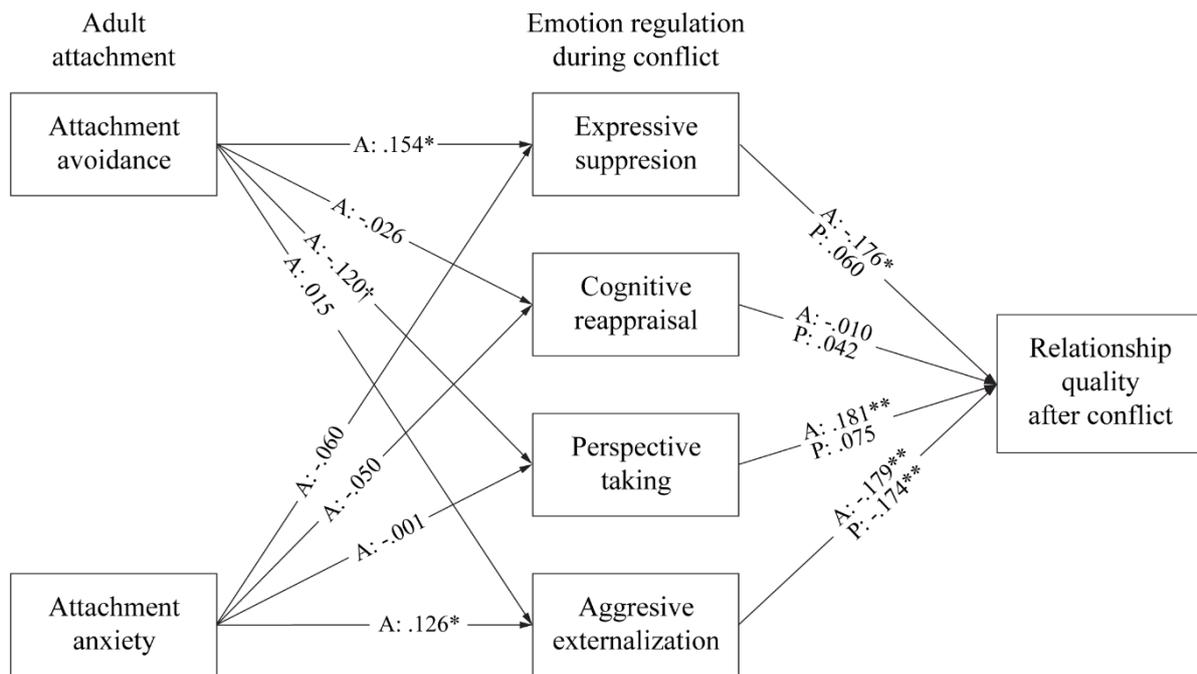


Figure 2. Schematic overview of the results of the Actor-Partner Interdependence Mediation Model with adult attachment styles as predictors, spontaneous emotion regulation as mediators and relationship quality as outcome. The figure shows the results of the paths relevant for the hypotheses. The specified model is more complex than the figure. The model also included emotion regulation and relationship quality with regard to the everyday conversation (between adult attachment and emotion regulation during conflict). The specified model includes the variables for male and female participants that were constrained to be equal. All possible paths were specified in the model, including all actor and partner effects (e.g., the paths from avoidance to relationship quality) as well as the correlations between the independent variables and between the residuals of the mediator and the outcome variables. Standardized coefficients are reported. A = actor effect, P = partner effect. † $p < .10$. * $p < .05$. ** $p < .01$.

Table 2

Indirect effects of the Actor-Partner Interdependence Mediation Model with insecure adult attachment as predictors, emotion regulation as mediators and relationship quality as outcome

Attachment	Emotion regulation	Actor		Partner	
		<i>B</i>	[95% CI]	<i>B</i>	[95% CI]
Attachment	Expressive suppression during conflict	-.027	[-.073, -.003]	.009	[-.006, .043]
avoidance	Cognitive reappraisal during conflict	.000	[-.009, .014]	-.001	[-.022, .006]
	Perspective taking during conflict	-.022	[-.059, -.002]	-.009	[-.038, .003]
	Aggressive externalization during conflict	-.003	[-.035, .022]	-.003	[-.035, .021]
Attachment	Expressive suppression during conflict	.011	[-.005, .036]	-.004	[-.021, .003]
anxiety	Cognitive reappraisal during conflict	.000	[-.007, .016]	-.002	[-.020, .004]
	Perspective taking during conflict	.000	[-.023, .026]	.000	[-.015, .013]
	Aggressive externalization during conflict	-.022	[-.059, -.002]	-.022	[-.057, -.002]

Note. Significant results are printed in bold. Standardized coefficients are reported.

2.6 Discussion

This research aimed at providing a fine-grained picture of the processes underlying the link between adult attachment and relationship quality and studied emotion regulatory processes during social interactions among romantic partners as mediators of this link. The results showed that emotion regulation strategies individuals engage in during stressful situations can be mapped onto insecure adult attachment styles. As expected, expressive suppression and perspective taking mediated the association of attachment avoidance and relationship quality, and aggressive externalization mediated the association of attachment anxiety and relationship quality.

2.6.1 Adult attachment and emotion regulation

Avoidant individuals reported higher levels of expressive suppression and lower levels of perspective taking in relation to the conflict discussion. The results are in line with previous research on trait suppression and perspective taking (Corcoran & Mallinckrodt, 2000; Gross & John, 2003; Joireman et al., 2002; Winterheld, 2015) and extend these findings showing that avoidant individuals aiming to distance themselves from threatening cues were more likely to avoid their partners' problems by not taking their perspective and by holding back the expression of their own emotions during the discussion with their partners. Anxiously attached individuals reported higher levels of aggressive externalization in relation to the conflict discussion (i.e., they reported of venting their emotions, starting a fight with their partner, and blaming their own emotions upon their partner). In the context of early adult attachment research, this result might seem surprising as anxious individuals' aim has been described as ensuring emotional closeness and intimacy with their partner (Hazan & Shaver, 1987). However, the result is in line with theoretical assumptions that anxious individuals engage in hyperactivating strategies (i.e., scanning the environment for threats and intensified negative responding to perceived threats) in order to acquire their partner's support (Mikulincer et al., 2003). Previous empirical findings and the results presented in this research support those assumptions as anxious individuals have been found to report higher levels of aggressive anger expression towards their partners (Nisenbaum & Lopez, 2015). Taken together, the results of this research may offer an explanation as to why anxious individuals often do not manage to ensure satisfying relationships with their partners (Chung, 2014; Lowyck et al., 2008; Meyers & Landsberger, 2002).

Cognitive reappraisal during the conflict discussion was neither linked to attachment avoidance nor to attachment anxiety. Given inconsistent findings in previous studies, no clear hypotheses regarding cognitive reappraisal were derived. However, the results are in line with

the nonsignificant correlations Gross and John (2003) reported for adult attachment and dispositional cognitive reappraisal. Still, results remain inconclusive when considering contrasting findings that found cognitive reappraisal positively related to attachment avoidance (Land et al., 2011) and negatively related to adolescents' attachment anxiety towards their parents (Tatnell et al., 2014).

In sum, the results confirm and broaden implications of attachment theory. They show that avoidant individuals do engage in deactivating strategies in their attempt to maintain distance from negative thoughts or stimuli (Mikulincer et al., 2003; Mikulincer & Shaver, 2003): During the conflict discussion, avoidant partners did not just hold back the expression of their own emotions but they also avoided perceiving their partners' problems by not taking their perspective. Furthermore, the findings add to the literature by showing that aggressive externalization as an example of a hyperactivating strategy is used by anxious individuals during stressful interactions with their partners. Cognitive reappraisal, however, was not linked to insecure adult attachment during the conflict interaction.

2.6.2 Emotion regulation and relationship quality

In addition, the results demonstrate that the emotion regulation strategies individuals spontaneously engage in during partner interactions are related to the partners' experience of their relationship quality: Expressive suppression and aggressive externalization showed a negative association with closeness and perspective taking showed a positive association. These results are in line with previous research showing that emotion regulation strategies differ in their adaptiveness with regard to social outcomes (Bettencourt et al., 2006; Franzoi et al., 1985; Gross & John, 2003; Impett et al., 2012; Seehausen et al., 2012).

The results confirm that interpersonal processes are relevant with regard to emotion regulation (Campos et al., 2011; Levenson et al., 2014): The way individuals regulated their own emotions was related to their own perceptions of relationship quality and, with respect to aggressive externalization, also to the relationship quality reported by their partners. This illustrates how closely emotional and social processes are intertwined. Still, most research has focused on intrapersonal associations so far (e.g., Gross & John, 2003), and only recently have studies started to apply dyadic designs (e.g., Impett et al., 2012). The results presented in this chapter are thus, a further contribution to close this gap in the literature.

However, the interpersonal hypotheses on expressive suppression and perspective taking were not confirmed. Partners of individuals high in expressive suppression or low in perspective taking did not report lower levels of relationship quality after the conflict discussion even though previous studies found interpersonal effects (e.g., between expressive suppression and

relationship quality; Butler et al., 2003; Impett et al., 2012). The non-significant partner effects are in line with the general pattern of findings showing that partner effects tend to be smaller when using self-reports (Orth, 2013); thus, a much larger sample might be necessary to analyze these effects with sufficient statistical power. In addition, situational aspects might explain non-significant effects for expressive suppression: Previous studies investigated situations that were less controversial than the situation investigated in the present study and did not include a direct confrontation with the romantic partner (Butler et al., 2003; Impett et al., 2012). However, a conflict discussion might entail a different dynamic and transform the suppression of (negative) emotion expression into a less maladaptive strategy. Instead of expressing negative emotions like anger or disappointment, not showing these emotions might keep the conflict discussion functional in order to approach a solution and thus, might outweigh possible negative effects of expressive suppression.

Furthermore, the results did not show a significant association between cognitive reappraisal and relationship quality after the discussion and thus contradict other studies (Finkel et al., 2013; Gross & John, 2003). Possibly, moderators such as the controllability of the problem (Troy et al., 2013) may need to be taken into account in order to fully understand the effects of reappraisal.

2.6.3 Strengths, limitations, and future research

The present research employed a dyadic design and investigated interactions between romantic partners in the lab (during a neutral and a stressful conversation). This design bears several notable strengths. First, it was possible to investigate emotional processes during social interactions that have been proposed as underlying drivers of the link between individual and relationship dispositions (Back et al., 2011). Second, the design allowed for examining emotion regulation in its most frequent context (i.e., in social interactions; Gross et al., 2006). Third, attachment processes could be studied in stressful situations that are particularly relevant to the attachment system (Mikulincer et al., 2003). Fourth, the dyadic design allowed testing for interpersonal effects which are crucial in social context. Asking the participants to respond to measures of emotion regulation and relationship quality directly after each of the conversations may have also helped to reduce memory effects that might be prevalent when using trait measures. Furthermore, these spontaneous aspects of emotion regulation (Egloff et al., 2006) reflect participants' natural responses and thus, allow studying the emotion regulation strategies participants engage in depending on their individual dispositions as suggested in calls to integrate research on individuals' characteristics and self-regulation (Hoyle, 2010; Levenson et al., 2014).

Besides, it is very likely that individuals engage in more than one emotion regulation strategy during social interactions in real life, which is not taken into consideration during experimental studies asking participants to engage in one particular emotion regulation strategy and thus, precluding them from using several strategies or choosing their preferred strategy or strategies (e.g., according to their own preferences, experience or individual dispositions). The approach of the present research takes this into consideration which may ensure higher external validity (Campos et al., 2011; Levenson et al., 2014). In addition, the design allowed studying multiple mediators (i.e., the four emotion regulation strategies) in one model, which provided the possibility to test the effects of competing variables conditioned to the presence of the other mediators and to estimate more precise effects (Preacher & Hayes, 2008).

However, the correlational design of the present research entails the disadvantage that causal inferences are not possible. It has been suggested that individual and relationship dispositions mutually influence each other during recurring social interactions (Back et al., 2011), and thus, relationship quality could also affect partners' attachment styles in the long run. Yet, the hypotheses were derived from adult attachment theories and research (e.g., Mikulincer et al., 2003) that suggest that adult attachment styles shape emotional responses. Furthermore, research on emotion regulation has demonstrated its effects on relationship outcomes (Butler et al., 2003; Gross & John, 2003). Both support the approach employed in the present research but other processes could mediate an effect of relationship quality to adult attachment, and further research is needed to shed more light on alternative processes.

Another shortcoming of the research presented in this chapter is that all variables were assessed via self-reports. A focus on self-reports can increase the risk of biased correlations through common method variance and researchers have therefore suggested to use measures from various sources (e.g., Podsakoff et al., 2012). This could be a valuable solution but it needs to be considered carefully because not all variables play out in observable behavior and self-report measures have been mentioned as often being the best option to learn about someone's self-referential perceptions and experiences (Brannick et al., 2010). Of the variables used in this research, the closeness ratings partners provided after the conflict discussion are an example of a self-referential perception that might be best deducted from partners themselves. In addition, emotion regulation strategies, such as cognitive reappraisal, are rather introspective and others might not be able to observe when an individual engages in them. Aggressive externalization or perspective taking might be more likely to translate into behavior and future research could build on this model and include observer ratings of aggressive externalization and perspective taking to test the predictions of the model beyond self-reports.

Future research could also build on the approach presented here to study further emotion regulation strategies. Emotion regulation includes a range of strategies (e.g., Gross, 1998a, 2015), and some might be relevant with regard to both adult attachment and conflict interactions among romantic partners. For example, attention deployment could be assessed more directly. Attention deployment is aimed at regulating which aspects of a situation individuals pay attention to (Gross, 1998b), which might also play a role with regard to adult attachment. Following attachment theories (Mikulincer et al., 2003), anxious individuals might extensively observe the interaction in their attempt to be warned by threatening cues. Avoidant individuals, however, might try to get distracted trying to minimize their perception of unsettling cues during a conflict discussion.

In addition, future research could look at the dynamics of conflict discussions to get an even more fine-grained picture of the processes occurring during conversations among romantic partners. The partner effect between aggressive externalization and relationship quality demonstrated in this study suggests a transfer between the partners (i.e., between one partner's emotion regulation and the other partner's relationship quality), and strengthens the importance of taking a closer look at the processes between romantic partners during their social interactions (Back et al., 2011). However, doing so is not a trifle. Interrupting the participants in order to assess emotion regulation via self-report at different times during the interaction would disturb the natural dynamics of the conversation. Alternatively, partners could view their own videos after the conversation and rate to what extent they engaged in an emotion regulation strategy at different moments during the discussion. Analyzing both partners' ratings could provide insight into a possible transfer of emotion regulation between the partners but also into further processes (e.g. the partners' thoughts on threats or withdrawal) during their social interactions.

In conclusion, the present study shows that emotion regulatory processes during challenging interactions among romantic partners mediate the associations of adult attachment and relationship quality. The study detected multiple pathways from insecure adult attachment via emotion regulation to relationship quality and thus, supports theories of adult attachment suggesting that avoidantly and anxiously attached individuals show a distinct pattern of emotional responding during stressful interactions. In addition, the study demonstrates that those emotional responses contribute to the partners' perceptions of reduced relationship quality. Therefore, the results demonstrate that affective processes during actual social interactions are involved in the interplay of individual dispositions and relationship outcomes.

3 Implicit emotion regulation in romantic relationships

Emotion regulation is related to critical life outcomes, such as psychological health, well-being, relationship quality, and life satisfaction (Gross & John, 2003; Hu et al., 2014; Impett et al., 2012; Nezlek & Kuppens, 2008). Individuals are often confronted with situations that require emotion regulatory efforts in their daily lives – especially in the context of close relationships (Berscheid & Ammazzalorso, 2004; Gross et al., 2006). A range of strategies can be used by individuals (for an overview see for example Gross, 2015). One of the best-researched emotion regulation strategies is expressive suppression (i.e., the suppression of one's emotion expression; Gross & Levenson, 1993), and its use in social context has been related to interpersonal consequences (Butler et al., 2003; Gross & John, 2003; Impett et al., 2012). However, many studies are characterized by a focus on the effects of controlled, reflective or deliberative aspects of emotion regulation (explicit emotion regulation), even though researchers agree that emotion regulation also includes automatic, impulsive or spontaneous aspects (implicit emotion regulation; e.g. Braunstein et al., 2017; Gyurak et al., 2011; Webb et al., 2015). Information processing across different domains has been shown to include these two different processes (i.e., implicit or automatic versus explicit or controlled; Strack & Deutsch, 2015) and emotion regulation research would be incomplete if it did not examine implicit aspects of emotion regulation.

The research presented in this chapter aims to contribute to closing this gap by studying implicit aspects of expressive suppression in the context of romantic relationships. An emotion regulation Implicit Association Test (ER-IAT; Mauss et al., 2006) was adapted to assess the implicit aspects of expressive suppression – and to study its effects on relationship functioning. This is important for different reasons: First, implicit emotion regulation has been suggested to be especially relevant in everyday life as the need for immediate emotional responses in daily life might limit the effectivity of more effortful, controlled aspects of emotion regulation (Gyurak et al., 2011). Second, expressive suppression is one of the most frequently used emotion regulation strategies in everyday situations (Gross et al., 2006), and its interpersonal outcomes have been well-documented. In particular, it has been shown to be negatively related to outcomes of relationships and social interactions (Butler et al., 2003; Impett et al., 2012).

3.1 Expressive suppression in social context

Emotion regulation includes goal-driven processes and strategies that individuals use to change the generation, experience and expression of emotional responses (Gross, 1998b; Gross et al., 2011). Following Gross' (2015) extended process model of emotion regulation, those processes develop when individuals notice the generation of an emotional response due to a discrepancy between their current situation and their own standards. The emotion regulation process includes different stages (i.e., identification, selection, and implementation), during which the individual sets goals on whether the emotional response needs to be regulated and which emotion regulation strategy to use. A range of emotion regulation strategies are available: While some modify the emotional response an individual might experience (e.g., cognitive reappraisal, the re-interpretation of emotion-eliciting stimuli of a situation; Gross, 1998a), others, such as expressive suppression, mainly focus on modifying the emotional response tendencies (e.g., not showing one's emotions). Yet, experiencing an emotion but aiming to suppress its expression does not lead individuals to experience the emotion to a lesser extent (Gross, 1998a), and that tendency has been related to unfavorable outcomes. For example, individuals who are more likely to habitually engage in expressive suppression report less positive and more negative affect. In addition, they report receiving less social support and lower levels of relationship satisfaction, and are rated to have less close relationships (Gross & John, 2003; Impett et al., 2012; Srivastava et al., 2009).

Interestingly, the effects of expressive suppression have also been found in relation to social interactions: One study found that when unacquainted interaction partners were discussing an emotionally disturbing documentary, the interaction partners of participants asked to suppress their emotional expression were less likely to have built a connection with the suppressors and were less interested in meeting them again (Butler et al., 2003). Interpersonal effects were also found in a diary study among romantic partners: On days when a participant reported having suppressed their emotion expression due to making a sacrifice for their partner, they and their romantic partners were less likely to be satisfied with their relationship (Impett et al., 2012). Taken together, those results show that expressive suppression does play an important role in peoples' lives with consequences on social interactions and relationships, that are also experienced by romantic and interaction partners. However, most studies focus on controlled aspects of expressive suppression, even though Gross' (1998b) suggests that "emotion regulatory processes may be automatic or controlled" (p. 275) and automatic aspects of emotion regulation have been suggested to be especially relevant in everyday life (Gyurak et al., 2011).

3.2 Implicit emotion regulation

Dual-process models posit that human behavior is guided by controlled and automatic processes. For example, the reflective-impulsive model (RIM; Deutsch & Strack, 2006; Strack & Deutsch, 2004) distinguishes the reflective system and the impulsive system. While the reflective system guides intentional behavior by generating judgements based on the activated concepts, the impulsive system is responsible for habit-like, automatic responses. In particular, the impulsive system connects perceptual cues with concepts or schemata due to previously associated activation, and guides automatic responses in this way. The concept of dual-process models has been transferred to emotion regulation but different authors use varying terms when describing aspects of emotion regulation. For example, a multi-level framework classified emotion regulation by two orthogonal dimensions – the nature of the goal (i.e., explicit vs. implicit) and the nature of the process (i.e., controlled vs. automatic; Braunstein et al., 2017). Following Gyurak and colleagues (2011), the term implicit emotion regulation is used in this work when referring to implicit aspects of emotion regulation that might arise automatically or spontaneously and are not necessarily monitored by the individual.

Research has found evidence for implicit and automatic aspects of emotion regulation: When emotion regulation goals are primed implicitly, participants act in accordance with these goals and automatically regulate emotions effectively (Mauss et al., 2007; Williams et al., 2009). In addition, researchers have suggested that automatic responses guided by previous experiences (i.e., the activation of the impulsive system) become routinized and that implicit measures can assess individuals' representations and action tendencies stored in the impulsive system. They proposed that Implicit Association Tests (IATs) are particularly useful measures because they assess the implicit evaluation of concepts and thus, can measure how positively individuals evaluate the representations stored in the impulsive system (Deutsch & Strack, 2006).

Based on reaction times, IATs measure how strongly a person associates two concepts. IATs are comprised of categorization tasks during which participants categorize words to a combination of two target categories and two attribute categories in order to assess the participant's implicit evaluation of the target categories. The target categories represent the concept to be measured, and the two attribute categories represent evaluation categories and thus, often include positive and negative words (Greenwald et al., 1998). Mauss and colleagues (2006) applied this rationale to emotion regulation and developed the emotion regulation IAT (ER-IAT) to measure an individual's implicit evaluation of emotion regulation as an indicator of habitual emotion regulation tendencies. Since its development, the ER-IAT has been used in studies examining its relation to emotional responses, emotional disorders or mental health

(Hopp et al., 2011; Johnson et al., 2016; Mauss et al., 2006). However, individuals' habitual emotion regulation tendencies have been shown with regard to specific emotion regulation strategies, such as expressive suppression (Gross & John, 2003), and implicit aspects of these specific strategies should not be neglected. In addition, authors have suggested that implicit emotion regulation is especially relevant in everyday life in when a the need for automatic responses might be more prevalent (Gyurak et al., 2011).

3.3 Overview of the present research

The research presented in this chapter aims to contribute to the literature on implicit emotion regulation by taking a focus on expressive suppression in the context of social interactions and romantic relationships. The emotion regulation IAT (Mauss et al., 2006) was adapted to measure the implicit evaluation of expressive suppression (Suppression-IAT). At a laboratory session, couples were asked to complete the Suppression-IAT and to engage in a videotaped emotion-eliciting interaction (i.e., the discussion of an ongoing conflict) that was used to rate their interpersonal behavior. In addition, partners completed measures on their relationship satisfaction (during the laboratory session and at a 6-month follow-up), and their general communication patterns in their relationships (at the 6-month follow-up). This approach seemed reasonable for several reasons: As individuals engage in expression suppressive tendencies on a habitual basis in their daily lives (Gross et al., 2006; Gross & John, 2003), where implicit emotion regulation might be especially important (Gyurak et al., 2011), the Suppression-IAT should be the appropriate measure to capture habitual, automatic aspects of expressive suppression. In addition, IATs have been discussed as predictors of behavior (for overviews see Fazio & Olson, 2003; Greenwald et al., 2009), and as individuals' use of expressive suppression is related to interpersonal functioning (Butler et al., 2003; Impett et al., 2012), it should be related to important aspects of romantic relationships, such as interaction behavior, communication patterns, and relationship satisfaction (e.g., Fletcher et al., 2000; Karney & Bradbury, 1997).

Building on findings of explicit expressive suppression in interpersonal context, the following hypotheses were proposed: As expressive suppression has been related to impaired relationship satisfaction (Impett et al., 2012), a positive implicit evaluation of expressive suppression was expected to be related to lower levels of relationship satisfaction. In addition, suppressors have been perceived as less positive during interactions with strangers (Butler et al., 2003). Thus, a positive implicit evaluation of expressive suppression was expected to be related to lower levels of positive interpersonal behavior during the conflict discussion.

Furthermore, it was expected that general negative interaction patterns in relation to implicit expressive suppression would also be reported by the partners themselves at the 6-month follow-up. Finally, as previous research has shown that expressive suppression also affects the interaction partners of a suppressor (Butler et al., 2003), partner effects were proposed. Thus, it was expected that the romantic partners of participants with positive implicit attitudes towards expressive suppression would report lower levels of relationship satisfaction, adaptive communication patterns, and show less positive interpersonal behavior during the conflict discussion.

3.4 Method

3.4.1 Procedure

Data of the project described in Chapter 2 were used to test the hypotheses described above. After a screening on inclusion criteria (being in a heterosexual relationship of at least 6 months, minimum age of 18 years, not seeking therapy), participants received a set of questionnaires as online-survey or via mail and were asked to complete it independently of their partners at home. The set included demographic variables and personality questionnaires (e.g., explicit expressive suppression, and constructs unrelated to the present study). About two weeks after completing the set of questionnaires, couples attended a laboratory session. First, they were seated at separate desks and asked to complete further measures including the Suppression-IAT, a measure of relationship satisfaction, the problem list by Hahlweg (1996), and other measures unrelated to the present study. Once the couples had completed those measures, they were asked to sit on a sofa and engage in a sequence of conversations (i.e., an everyday conversation, and the discussion of a conflict that they had rated as recent and serious on the problem list) that has been widely used in relationship research (Levenson & Gottman, 1983; for a more detailed description of the conversations see Chapter 2.4.1). The conversations were videotaped and the videos of the conflict discussions were used by independent coders to rate partners' positive interpersonal behavior. At the end of the laboratory session, participants were debriefed, and given compensation for participation (20€ and individual feedback on their personality traits). Six months after the laboratory session, participants were contacted again and asked to respond to another set of questionnaires, including measures on relationship satisfaction and partner communication.

3.4.2 Materials

3.4.2.1 *Explicit expressive suppression*

Explicit expressive suppression was assessed with the expressive suppression subscale of the emotion regulation questionnaire (ERQ, Gross & John, 2003; German version: Egloff et al., 2006). Partners rated four items (e.g. ‘I control my emotions by not expressing them.’) on a 7-point Likert scale (1 = *strongly disagree* to 7 = *strongly agree*).

3.4.2.2 *Implicit evaluation of expressive suppression*

Implicit evaluation of expressive suppression was assessed with the help of an adapted version of the ER-IAT by Mauss et al. (2006). The Suppression-IAT was presented on desktop computers using Inquisit 3 (2007). The IAT included the categories *hide emotions* (e.g., suppress), *express emotions* (e.g., express), *pleasant* (e.g., joy) and *unpleasant* (e.g., war). Participants were asked to categorize words appearing in the center of the screen to combinations of these categories as quickly as possible but while avoiding errors. The IAT consisted of seven blocks. In Blocks 1, 2, and 5 with 24 trials each, participants practiced which keys to use to assign the words to their categories. Blocks 3 and 6 with 24 trials each were practice blocks for the combined categories and Blocks 4 and 7 with 73 trials each were test blocks. In Blocks 3 and 4, the categories *hide emotions* and *unpleasant* as well as the categories *express emotions* and *pleasant* were to be combined. In Blocks 6 and 7, the categories *hide emotions* and *pleasant* as well as the categories *express emotions* and *unpleasant* were to be combined⁵. In case of an error, participants were asked to answer correctly before they could proceed with the task and the time until the correct key was pressed was recorded (i.e., built-in penalty; Greenwald et al., 2003). The D-score (Greenwald et al., 2003) was computed as one score that included all trials (i.e., practice and test trials) instead of separate D-scores for practice and test trials, following recommendations by Richetin et al. (2015). Blocks that combined the categories *hide emotions* and *pleasant* as well as *express emotions* and *unpleasant* were subtracted from blocks that combined the categories *hide emotions* and *unpleasant* as well as *express emotions* and *pleasant*. Thus, higher Suppression-IAT-scores refer to a more positive implicit evaluation of expressive suppression in comparison to expression.

3.4.2.3 *Relationship satisfaction*

Relationship satisfaction was assessed with the German version (Sander & Böcker, 1993) of the Relationship Assessment Scale (RAS; Hendrick, 1988). Participants completed seven items

⁵ As individual differences were of interest in the present research, the order of these combined blocks did not vary among participants in order to reduce method variance (Banse et al., 2001).

(e.g., ‘In general, how satisfied are you with your relationship?’) on a 5-point scale with varying anchors for each item (e.g., *very dissatisfied* to *very satisfied*).

3.4.2.4 Partner communication

Partner communication in romantic relationships was assessed by using two subscales of the Marital Satisfaction Inventory – Revised (MSI-R; Snyder, 1997; German version: Klann et al., 2006) – affective communication and problem-solving. The affective communication subscale assesses whether one partner is satisfied with the other partner’s extent of affection and understanding towards them (13 items, e.g., ‘Sometimes my partner just can’t understand the way I feel.’, ‘There is a great deal of love and affection expressed in our relationship.’). The problem-solving communication subscale assesses whether the partners are effective in solving their conflicts (19 items, e.g., ‘When arguing, we manage quite well to restrict our focus to the important issues.’). Items of both scales could be answered with 1 (*true*) or 2 (*not true*). In order to facilitate interpretation of the results, all items of the MSI-R were recoded before data analysis such that high scores indicate more adaptive communication.

3.4.2.5 Positive interpersonal behavior

Partners’ interpersonal behavior was rated by four independent coders. Each couple was rated by four coders. Coders received a coding training and used a translated and adapted version of the Interactional Dimensions Coding System (IDCS; Julien et al., 1989; Kline et al., 2004). The IDCS is a tool to evaluate various dimensions of an interaction (e.g., communication skills) assessing each participant’s verbal and nonverbal behaviors. The coders watched the recorded videos several times to get familiar with each couple’s interaction and to rate each partner individually. When rating the partners individually, coders divided the 10-minute interaction into three equally long segments and viewed each segment as often as necessary to rate each dimension for this partner. Once the coders had rated the three segments for one partner, they estimated an overall score for each dimension that, in their opinion, best described the partner’s behavior during the entire discussion. These overall scores were used for data analysis (as recommended by Kline et al., 2004). Coders assessed each dimension on 9-point Likert scales (1 = ‘extremely uncharacteristic’ to 9 = ‘extremely characteristic’). Most of the dimensions (i.e., positive affect, negative affect, communication skills, problem solving skills, denial, support validation, and conflict behavior) loaded on one factor in a principal axis exploratory factor analysis with orthogonal varimax rotation. Negative dimensions were inverted and the dimensions were aggregated to one indicator of positive interpersonal behavior during the conflict discussion. A one-way intra-class correlation (ICC = .752; McGraw & Wong, 1996)

indicated excellent consistency of the four raters for the positive interpersonal behavior variable (Cicchetti, 1994).

3.4.3 Participants

The sample consisted of 137 heterosexual couples aged 18 to 78 years. The mean age was 31.0 years ($SD = 12.8$ years) for female and 32.8 years ($SD = 12.7$ years) for male participants. Relationship duration ranged from 6 months to 57 years, with a mean of about 10 years ($M = 117.0$ months, $SD = 138.0$ months). Ninety one couples (66.4 %) were cohabiting, 50 couples (36.5 %) were married, and 11 participants (4.0%) were divorced and engaged in a new relationship. Seventy-four couples responded to the questionnaire set at 6-month follow-up. They did not differ significantly from couples dropping out at follow-up with regard to relationship satisfaction at the laboratory session ($F(1) = 2.903, p = .091, \eta^2 = .021$).

3.5 Results

Table 3 shows reliability coefficients (Spearman Brown corrected split-half correlations with test-halves including alternating pairs of trials of the combined blocks for the IAT; Cronbach's Alpha for all other variables), descriptive statistics, paired sample t-tests and correlations⁶ of male versus female partners' scores. The Suppression-IAT and explicit expressive suppression were significantly and positively related ($r = .137, p = .024$) but missed the conventional levels of significance in an Actor-Partner Interdependence Model controlling for the dyadic data structure ($B = .110, p = .153$). The result is comparable to the literature on implicit-explicit consistency that often shows low and not necessarily significant associations (Hofmann et al., 2005; Schmukle et al., 2008). The negative means of the Suppression-IAT scores show that, on average, participants reacted faster when they were to combine the categories *express emotions* and *pleasant* than when they were to combine the categories *hide emotions* and *pleasant*. The means showed a similar pattern for explicit expressive suppression and the Suppression-IAT. Paired sample t-tests comparing male and female partners showed that male partners reported significantly higher levels of explicit expressive suppression than female partners. The result for the Suppression-IAT dovetails the finding on explicit expressive suppression (i.e., male partners tended to show a higher positive implicit evaluation of expressive suppression than female partners) but it missed conventional levels of significance.

⁶ Within- and between-person correlations between all variables for male and female participants are presented in the appendix (Table B1 and Table B2). However, they do not take the dyadic data structure into account and should not be interpreted.

To test the hypotheses, Actor-Partner-Interdependence Models (APIMs; Kenny et al., 2006) that take the dyadic data structure into account were run. The models included the variables of both partners and correlations between the exogenous variables and between the residuals of the endogenous variables and allowed to test for actor effects (i.e., paths between one partner's exogenous and endogenous variables) and partner effects (i.e., paths between one partner's exogenous variable and the other partner's endogenous variable). The Suppression-IAT score was included as exogenous variable, and the relationship satisfaction, interaction, or communication variables were included as endogenous variables. To test the incremental validity of the Suppression-IAT, all models were specified a second time including explicit expressive suppression as an additional exogenous variable. The models were run in MPlus 7.31 (Muthén & Muthén, 2015) using maximum likelihood parameter estimation, and full information maximum likelihood to deal with missing data. Actor and partner paths were restricted to be equal for male and female participants to test more parsimonious models (Kenny et al., 2006) if the restricted model showed acceptable or good model fit (i.e., $p(\chi^2) = ns$; CFI > .95; TLI > .95; RMSEA < .08; Schermelleh-Engel et al., 2003). If the fit of a restricted model was unsatisfactory, the most parsimonious model with satisfactory fit was accepted (see index in Table 4).

Table 4 displays the results on the intrapersonal and interpersonal hypotheses (i.e. actor and partner paths) between the Suppression-IAT and the relationship variables. The table also includes the results for the paths between the Suppression-IAT and the relationship variables when controlling for explicit expressive suppression⁷. To allow a comparison of the coefficients, all variables were standardized before specifying the model⁸. Therefore, Table 4 reports *B*'s that can be interpreted as standardized coefficients. The results show that a positive implicit evaluation of expressive suppression was related to lower levels of relationship satisfaction, less positive interpersonal behavior during the conflict discussion and lower levels of affective and effective problem solving communication. However, not all paths could be

⁷ Results on the paths between explicit expressive suppression and the relationship variables can be found in the appendix (Table B3).

⁸ Variables were standardized because the different standard deviations for male and female participants would lead to different standardized coefficients produced by the statistics software, even if the paths for male and female participants were restricted to be equal. Each variable was standardized using the full sample instead of male and female variables separately (Kenny et al., 2006).

restricted to be equal for male and female participants indicating that the associations between implicit expressive suppression and relationship and communication variables might be different for males and females.

In particular, the results show that male but not female participants with a positive implicit evaluation of expressive suppression reported significantly lower levels of relationship quality at the laboratory session (actor paths; male: $B = -.256$; $p = .001$; female: $B = -.025$; $p = .743$). In addition, female participants reported significantly lower levels of relationship quality at the laboratory session if the male partner showed a positive implicit evaluation of expressive suppression ($B = -.288$; $p = .003$), but male partners did not report lower levels of relationship quality if the female partner showed a positive implicit evaluation of expressive suppression ($B = .037$; $p = .633$, partner paths). When controlling for explicit expressive suppression, results showed a similar pattern. That is, a significant and negative actor path between the Suppression-IAT score and relationship satisfaction for male ($B = -.266$; $p = .034$) but not for female ($B = -.026$; $p = .742$) participants, and a significant partner effect on females' ($B = -.283$; $p = .004$) but not males' ($B = .042$; $p = .590$) relationship satisfaction. Thus, the results show that relationship satisfaction was impaired when the male, but not the female, partner held positive implicit attitudes towards expressive suppression. Those associations were not found at the 6-month follow-up. Actor and partner paths between the Suppression-IAT and relationship satisfaction after six months were not significant (actor paths: $B = -.158$; $p = .052$; partner paths: $B = -.158$; $p = .070$), and this pattern did not change when controlling for explicit expressive suppression (actor paths: $B = -.149$; $p = .068$, partner paths: $B = -.158$; $p = .066$).

With regard to partners' interpersonal behavior during the conflict discussion, the results show a significant and negative actor path for male ($B = -.191$; $p = .037$) but not female ($B = -.005$; $p = .938$) participants indicating that if male, but not female, participants held positive implicit attitudes towards expressive suppression, they were rated as behaving more negatively during the conflict discussion. The partner paths testing if a participant's IAT-score was related to their partner's interpersonal behavior during the discussion was not significant ($B = -.100$; $p = .090$). When controlling for explicit expressive suppression, the actor and partner paths were not significant (actor paths: $B = -.061$; $p = .319$; partner paths: $B = -.112$; $p = .062$).

With regard to the self-reported communication variables at the 6-month follow-up, actor and partner effects showed negative and significant associations between the Suppression-IAT and affective communication (actor paths: $B = -.175$; $p = .049$; partner paths: $B = -.204$; $p = .023$) and between the Suppression-IAT and problem solving communication (actor paths: $B = -.259$; $p = .003$; partner paths: $B = -.195$; $p = .026$). The results indicate that participants with

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positive implicit attitudes towards expressive suppression and their partners perceive the communication in their relationship as less affectionate, and less effective when discussing a conflict. When including explicit expressive suppression as an additional exogenous variable into the model with affective communication, the actor path was not significant ($B = -.174; p = .061$), but the partner effect was ($B = -.194; p = .028$). The pattern of results did not change for problem solving communication when controlling for explicit expressive suppression (actor effect: $B = -.248; p = .004$; partner effect: $B = -.201; p = .021$).

Table 3

Reliability, descriptive statistics, paired sample t-tests and correlations between female and male partners' scores

	Rel.	Women		Men		<i>t</i>	<i>df</i>	<i>r</i> ♂♀
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Explicit expressive suppression	.753	2.90	1.19	3.56	1.04	-4.44***	134	-.139
Suppression-IAT	.860	-0.68	0.29	-0.61	0.29	-1.93†	136	.001
Relationship satisfaction	.855	4.38	0.54	4.37	0.51	0.10	136	.603***
Relationship satisfaction – t2	.884	4.39	0.55	4.39	0.56	-0.05	73	.559***
Positive interpersonal behavior	.915	5.95	1.37	5.87	1.46	0.72	113	.661***
Affective communication – t2	.774	0.82	0.19	0.85	0.17	-1.06	73	.391**
Problem solving communication – t2	.848	0.77	0.21	0.74	0.22	0.98	73	.559***

Note. Rel.: reliability estimate (split-half reliability for the IAT and Cronbach's Alpha for all other variables). t2: variable at 6-month follow-up.

† $p < .10$. ** $p < .01$. *** $p < .001$.

Table 4*Intra- and interpersonal effects of the Suppression-IAT on the relationship variables*

	Controlled for explicit expressive suppression							
	Actor		Partner		Actor		Partner	
		<i>B</i>		<i>B</i>		<i>B</i>		<i>B</i>
Relationship satisfaction	♀ ^b :	-.025	♀ → ♂ ^b :	.037	♀ ^b :	-.026	♀ → ♂ ^b :	.042
	♂ ^b :	-.265**	♂ → ♀ ^b :	-.288**	♂ ^b :	-.266*	♂ → ♀ ^b :	-.283**
Relationship satisfaction – t2	♀	-.158†	♀ → ♂	-.158†	♀	-.149†	♀ → ♂	-.158†
	♂	-.158†	♂ → ♀	-.158†	♂	-.149†	♂ → ♀	-.158†
Positive interpersonal behavior	♀ ^b :	-.005	♀ → ♂	-.100†	♀	-.061	♀ → ♂	-.112†
	♂ ^b :	-.191*	♂ → ♀	-.100†	♂	-.061	♂ → ♀	-.112†
Affective communication – t2 ^a	♀	-.175*	♀ → ♂	-.204*	♀	-.174†	♀ → ♂	-.194*
	♂	-.175*	♂ → ♀	-.204*	♂	-.174†	♂ → ♀	-.194*
Problem solving communication – t2 ^a	♀	-.259**	♀ → ♂	-.195*	♀	-.248**	♀ → ♂	-.201*
	♂	-.259**	♂ → ♀	-.195*	♂	-.248**	♂ → ♀	-.201*

Note. t2: variable at 6-month follow-up. Standardized coefficients are reported.

^a all items of the MSI-R were recoded before data analysis such that high scores indicate more adaptive communication. ^b reported paths could not be constrained to be equal for male and female participants.

† $p < .10$. * $p < .05$. ** $p < .01$.

3.6 Discussion

The present research aimed at exploring implicit aspects of the emotion regulation strategy expressive suppression in the context of romantic relationships. The emotion regulation IAT (Mauss et al., 2006) was adapted to assess the implicit evaluation of expressive suppression, and its associations with relationship satisfaction and partner communication were tested. As expected, the results show that a positive implicit evaluation of expressive suppression is associated with impaired relationship quality and communication between partners.

3.6.1 Interpersonal outcomes of implicit attitudes towards expressive suppression

The results presented in this chapter show that implicit expressive suppression is important in the context of interpersonal relationships, and are partially in line with past research on explicit expressive suppression and interpersonal outcomes. For example, the results showed that individuals with higher levels of implicit expressive suppression and their partners reported lower levels of relationship satisfaction, but those associations were only found if the male partner was the one holding positive implicit attitudes towards expressive suppression. Past research on explicit expressive suppression, however, did not find such gender differences (Impett et al., 2012). The results show a similar pattern with regard to participants' interpersonal communication behavior during the conflict discussion with their partners. Male participants with high levels of implicit expressive suppression were rated as behaving more negatively during the discussion but this association was not significant for female participants. The result mirrors an association found on explicit expressive suppression and interaction outcomes. In a study with female participants, unacquainted interaction partners rated suppressors as less likeable, but the authors hypothesized that these effects might be less apparent among males (Butler et al., 2003). However, for the present research, independent observers rated different dimensions of partners' interaction behaviors during a conflict discussion with their significant other. The dimensions included conflict related behaviors, such as denial, and support validation. Thus, the situation and specific ratings might explain why the effects were found among males, but future research is needed to better understand the gender differences (see below). With regard to self-reported communication patterns at the 6-month follow-up, however, the present research did not find gender differences. Participants with a positive implicit evaluation of expressive suppression and their partners were less satisfied with their partner's affection and understanding towards them (i.e., affective communication), and they reported less effective problem solving patterns in their relationships. Those results are an indication that romantic partners also perceive unfavorable communication patterns in relation

to implicit expressive suppression, and they show that these general patterns are relevant for male and female partners.

Furthermore, as individuals' behavior is guided by controlled and automatic processes (e.g., Strack & Deutsch, 2015), all models were calculated a second time including a trait measure of explicit expressive suppression as an additional exogenous variable in order to test whether implicit expressive suppression was also related to the relationship outcomes when controlling for explicit aspects of explicit suppression. Controlling for explicit expressive suppression did not change the pattern of results (however note that the negative actor path between the Suppression-IAT and affective communication was not significant when controlling for explicit expressive suppression): Implicit expressive suppression remained negatively related to relationship outcomes, such as relationship satisfaction, positive interpersonal behavior and general relationship communication patterns, when controlling for explicit expressive suppression. This indicates the importance of implicit expressive suppression with regard to interpersonal interactions and romantic relationships. Taken together, results of the research presented in this chapter support the suggestion that implicit aspects of emotion regulation are relevant in everyday life (Gyurak et al., 2011), and should be taken into account when studying interpersonal outcomes of emotion regulation.

3.6.2 Strengths, challenges and future research

The design of the present research entails several strengths. First, it tested the associations of implicit expressive suppression with important aspects of romantic relationships, such as relationship satisfaction, interaction behavior, and communication patterns (e.g., Fletcher et al., 2000; Karney & Bradbury, 1997). Second, the dyadic nature of romantic relationships was taken into account. Data of both partners were collected and it was thus, possible to test interpersonal effects of implicit expressive suppression (i.e., associations between one partner's implicit expressive suppression and the other partner's relationship outcomes). Third, participants were asked to engage in an interaction with their partners, and their behavior was rated by independent observers. This was important as implicit emotion regulation has been mentioned as being especially relevant in everyday situations (Gyurak et al., 2011), and because IATs have been discussed as predictors of behavior (for overviews see Fazio & Olson, 2003; Greenwald et al., 2009). Furthermore, the study included a trait measure of explicit expressive suppression in order to better understand the impact of implicit expressive suppression in social context when controlling for explicit aspects of expressive suppression.

However, the research also showed some unexpected results that need to be discussed. For example, implicit expressive suppression and relationship satisfaction at the 6-month follow-

up were not significantly related as the actor and partner paths missed conventional levels of significance. One could conclude that implicit expressive suppression is unrelated to relationship outcomes in the long run. However, the associations between implicit expressive suppression and the self-reported communication patterns (affective communication and problem solving) at the 6-month follow-up were significant. This could indicate that implicit expressive suppression is more important with regard to specific relationship experiences, such as the partners' communication patterns, than with regard to partners' more global perceptions of their relationship, such as relationship satisfaction and future research is needed to better understand these effects.

In addition, unexpected gender differences indicated that associations between implicit expressive suppression and relationship outcomes might be different for male and female partners. For example, male and female partners reported lower levels of relationship quality if the male partners, but not if the female partners, held more positive implicit attitudes towards expressive suppression. Similarly, male partners with a positive evaluation of expressive suppression showed less positive interpersonal behavior during the discussion but female partners did not. With regard to self-reported communication patterns, however, effects were of equal size for male and female partners. Therefore, future research is needed to better understand those differences. Following the PERSOC framework (Back et al., 2011), future research could zoom in on the processes between implicit emotion regulation and relationship outcomes. The framework suggests that interpersonal perceptions of one's own or the interaction partners' feelings and motivations are involved in the link between individual and relationship dispositions (Back et al., 2011). Research on explicit expressive suppression indicates that interpersonal perceptions could be important. Researchers found that feeling inauthentic when suppressing one's emotion expression mediated the link to relationship quality (Impett et al., 2012). In addition, individuals perceived their romantic partners as less authentic when they thought that their partner suppressed their emotion expression (Impett et al., 2014). Those results are an indication that the perceptions of one's own and the partners' states and behaviors are important in romantic relationships with regard to expressive suppression, and that it might be worthwhile to study perceptual processes with regard to implicit expressive suppression as well.

However, it is also important to get a broader picture of the relevance of implicit emotion regulation in human life. Thus, future research should look into implicit aspects of other emotion regulation strategies. For example, the IAT could be adapted to assess individuals' implicit evaluations of other emotion regulation strategies, such as cognitive reappraisal (see

also Hopp et al., 2011). In contrast to expressive suppression, cognitive reappraisal has been related to positive interpersonal outcomes, such as closer relationships (Gross & John, 2003). Therefore, exploring whether implicit evaluations of more adaptive emotion regulation strategies are important in interpersonal functioning would expand the knowledge on automatic emotion regulation processes.

To broaden the understanding of implicit emotion regulation even further, future research could investigate if the negative effects of implicit expressive suppression replicate with regard to other relationships. After all, emotion regulation is common in the presence of friends and family, too (Gross et al., 2006), and habitual suppressors have been rated as less likeable by their peers (Gross & John, 2003). In addition, controlled suppression had an effect on unacquainted interaction partners who were less interested in meeting the suppressors again (Butler et al., 2003). Thus, it does seem plausible that other relationships, apart from romantic relationships, are affected by implicit emotion regulatory processes and future research is needed to determine its role.

Definitions of emotion regulation have included automatic or implicit aspects of emotion regulation for decades (Braunstein et al., 2017; Gross, 1998b), but its effects in social context have been neglected. The research presented in this chapter aimed to contribute to closing this gap by studying implicit aspects of expressive suppression (with the help of an Implicit Association Test) in the context of romantic relationships. The results show that positive implicit evaluations of expressive suppression are associated with interpersonal outcomes, such as relationship satisfaction and communication patterns. Thus, the results are a further indication that dual-process models can be transferred to emotion regulation (Mauss et al., 2006; Strack & Deutsch, 2015), and they underline suggestions that implicit aspects of emotion regulation are relevant in everyday life as controlled emotion regulation alone might not be effective (Gyurak et al., 2011).

4 Regulatory focus as mediator of the association of self-esteem and relationship quality

When dealing with a conflict in their relationships, romantic partners might adopt different strategies on how to solve it. Even though both partners might aim for the same goal, i.e., to find a solution, one partner might suggest a range of ideas, while the other one might focus on the causes of the problem (see for example Winterheld & Simpson, 2011). Regulatory focus theory (Higgins, 1997) provides an explanation to these different behaviors. It suggests that individuals adopt different regulatory foci (i.e., a promotion or a prevention focus) depending on how they represent a goal, and that they engage in different self-regulation strategies as a result of those foci. The theory posits that individuals have a general tendency to adopt one focus over the other (i.e., chronic regulatory focus; Higgins, 1997), but it also states that “everyone has both systems available to them” (Higgins et al., 2008, p. 165). The latter emphasizes that, depending on situational context, individuals can spontaneously adopt a regulatory focus that might not align with their general tendency (i.e., situated regulatory focus). Different frameworks provide ideas on what might affect situated focus adoption. The distal-proximal framework (Hoyle, 2010) suggests that individual dispositions are expressed through self-regulation processes, that in turn shape psychological functioning. Similarly, the PERSOC framework stresses that cognitive, motivational and behavioral processes during social interactions mediate associations of individual and relationship dispositions (Back et al., 2011).

An individual disposition that has been shown to be involved in self-regulatory tendencies is self-esteem (e.g., Baumeister et al., 1993). In addition, an abundance of research has linked self-esteem to relationship outcomes: High self-esteem individuals are more satisfied with their romantic relationships, and feel closer and more committed to their partners (Erol & Orth, 2013; Murray et al., 2002; Orth et al., 2012; Robinson & Cameron, 2012; Sciangula & Morry, 2009; Shackelford, 2001). Interestingly, partners of high self-esteem individuals are more satisfied with their relationships as well (Erol & Orth, 2013; Robinson & Cameron, 2012). Researchers have called for a further investigation of this link (Erol & Orth, 2016) but little attention has been paid to possible processes underlying those associations.

The research presented in this chapter aims to fill this gap by studying situated regulatory focus as a mediator of the link between self-esteem and relationship quality. The research combines the suggestions of the two frameworks mentioned above. It assumes that self-regulatory processes are shaped by individual dispositions (cf. Hoyle, 2010), and follows the

considerations by Back and colleagues (2011) that motivational and behavioral processes during interpersonal situations play a mediating role in the interplay of individual dispositions and relationship outcomes. Therefore, it studies whether self-esteem shapes romantic partners' spontaneous regulatory focus adoption when discussing a relationship conflict with their partners, and the associations of regulatory foci with interpersonal conflict behavior and relationship satisfaction.

4.1 Regulatory focus and romantic relationships

Regulatory focus theory describes two self-regulation patterns (i.e., promotion and prevention focus), individuals adopt depending on whether they represent goals, so called desired end states, as aspirations or obligations (Higgins, 1997). The theory posits that a promotion focus is prevalent when goals are considered as hopes and aspirations (i.e., ideal goals) and reaching the desired end state is represented as the presence of a positive outcome. As a consequence, individuals are eager to achieve those positive outcomes, are sensitive to the presence and absence of positive cues and consequences, and engage in creative strategies to maximize the likelihood of reaching the goal. In contrast, prevention focus is characterized by considering goals as obligations or duties (i.e., ought goals), and reaching the desired end state is represented as the absence of a negative outcome. Thus, prevention-focused individuals are driven by the need to meet obligations and responsibilities. They adopt safe and responsible strategies to avoid missing out on fulfilling their duties, and are sensitive to the presence and absence of negative events and consequences (for overviews see Higgins, 1997; Werth & Förster, 2007).

The two regulatory foci have been shown to shape relationship preferences and outcomes: Depending on their regulatory focus, individuals show a preference for romantic relationships that are defined by growth or security qualities (Cortes et al., 2018). In addition, trust versus partner commitment predict forgiveness among promotion versus prevention-focused individuals (Molden & Finkel, 2010). When partners pursue shared goals, complementary regulatory foci benefit their relationship well-being (Bohns et al., 2013). The regulatory foci are also related to distinct interaction patterns and outcomes: When discussing a conflict with their partners, promotion-focused individuals are more likely to offer creative conflict solutions, whereas prevention-focused individuals focus on the conflict details. Furthermore, when recalling a previous conflict discussion, promotion-focused individuals were more satisfied with the discussion outcome than prevention-focused individuals (Winterheld & Simpson, 2011).

Many studies focus on chronic aspects of regulatory focus or manipulate regulatory focus adoption (e.g., Cortes et al., 2018; Gao et al., 2017; Winterheld & Simpson, 2011). While they are an indication of the importance of regulatory focus in social context, they do not address the question on what shapes the naturally occurring adoption of regulatory foci in everyday life. Researchers have pointed out that self-regulatory processes are an expression of individual dispositions, and that individual dispositions might therefore affect self-regulation tendencies in general, and regulatory focus adoption in particular (e.g., Hoyle, 2010; Lanaj et al., 2012; Scholer & Higgins, 2010).

4.2 Self-esteem, regulatory focus and romantic relationships

Self-esteem is an individual disposition that has been found to shape self-regulatory tendencies (Baumeister et al., 1989; Baumeister et al., 1993; Heimpel et al., 2006). Self-esteem refers to how individuals subjectively evaluate their own attributes or behaviors along dimensions of valence (Baumeister & Tice, 1985; Leary & Baumeister, 2000). Individuals with high self-esteem value their own strengths, whereas individuals with low self-esteem are concerned with their weaknesses (Baumeister & Tice, 1985). In situations that might pose a risk of self-humiliation, high self-esteem individuals seek to display their abilities and ideas. In contrast, low self-esteem individuals, not trusting their own abilities, follow a self-protective and cautious pattern attempting to draw little attention to themselves and to prevent or minimize embarrassment (Baumeister et al., 1989). Those tendencies mirror regulatory focus strategies, and empirical research has shown that self-esteem and regulatory focus are linked: Across several countries, Higgins and colleagues (2008) found self-esteem to be positively associated with chronic promotion focus. Furthermore, meta-analytic data shows that self-esteem is positively related to promotion focus and negatively related to prevention focus (Lanaj et al., 2012). Those associations were also found in the context of romantic relationships: When confronted with relationship threat, high self-esteem individuals reported more promotion focus than low self-esteem individuals (Cavallo et al., 2009). Considering that self-esteem plays an important role for relationship functioning (for an overview see Erol & Orth, 2016), the findings that self-esteem and regulatory focus are associated indicate that regulatory focus might be involved in mediating the well-described link between self-esteem and relationship quality.

4.3 Overview of the present research

The research presented in this chapter addresses this question. It combines suggestions made by self-regulation and personality researchers suggesting that self-regulation and interaction

processes can mediate between individual dispositions and psychological and interpersonal outcomes (Back et al., 2011; Hoyle, 2010). Two studies investigate whether the spontaneous (i.e., naturally occurring) situated regulatory foci individuals adopt during conflict interactions with their romantic partners play a mediating role in the interplay of self-esteem and relationship quality. Conflict interactions among romantic partners might be particularly adequate to investigate this research question as situations that pose a risk to the self or the relationship have been shown to shape different reactions in high versus low self-esteem individuals (Baumeister et al., 1989; Baumeister et al., 1993; Cavallo et al., 2009). Study 1 was designed to explore the links between self-esteem, regulatory focus, and relationship satisfaction, and to test the validity of a self-developed measure of regulatory focus in relation to conflict discussions among romantic partners. Study 2 aimed to replicate and extend the findings of Study 1 including implicit aspects of individuals' self-esteem, and observing couples discussing an ongoing conflict in their relationships. As previous studies found self-esteem and chronic regulatory focus associated on a trait level (see Higgins et al., 2008; Lanaj et al., 2012), it was expected that high self-esteem individuals would be more likely to adopt a promotion focus and less likely to adopt a prevention focus during conflict discussions with their romantic partners. In addition, the interpersonal outcomes of the regulatory foci described above (see Winterheld & Simpson, 2011), were expected to be shown with regard to the discussions. It was expected that promotion focus would be related to positive relationship outcomes, and prevention focus would be related to negative relationship outcomes. This led to the following hypotheses: Situated promotion focus mediates the link between self-esteem and relationship quality through positive associations of self-esteem and promotion focus, and of promotion focus and relationship quality. Situated prevention focus mediates the link of self-esteem and relationship quality through negative associations of self-esteem and prevention focus, and of prevention focus and relationship quality.

4.4 Study 1

Study 1 was conducted as an online study to understand whether regulatory focus can mediate the link between self-esteem and relationship satisfaction. The conflict resolution recall task (Winterheld & Simpson, 2011) was adapted and participants were asked to recall and describe a specific situation during which they had discussed an unresolved issue with their partner. Participants rated regulatory focus related thoughts and behaviors they had experienced during the situation, as well as how satisfied they had been with their relationship. The hypotheses described above were tested with relationship satisfaction as the outcome variable.

4.4.1 Method

4.4.1.1 Participants

Participants were recruited via mailing lists, flyers and online advertisements. Of the participants who completed the online-survey ($N = 289$), 40 were excluded because they reported a relationship duration of less than six months or because they did not describe a conflict discussion with their partner. The remaining sample included 249 participants (86.7% female) aged 18 to 61 years ($M = 25.2$ years; $SD = 12.8$ years). Relationship duration ranged from 6 months to 38 years, with a mean of about 4.5 years ($M = 49.5$ months, $SD = 54.8$ months). Nearly half of the participants (47.8%) were cohabiting with their partners, and 14.5% were married.

4.4.1.2 Procedure

Participants completed demographic questions and personality questionnaires (e.g., self-esteem) at the beginning of the study. Following the questionnaires, participants were asked to recall a specific conflict discussion with their partner (cf. conflict resolution recall task; Winterheld & Simpson, 2011). In order to help them remember one specific situation, they were asked to describe the conflict topic from both partners' perspectives. After these descriptions, participants completed questionnaires on their thoughts and behaviors during that situation (e.g., situated regulatory focus), as well as the relationship satisfaction they had experienced during the situation. Finally, participants were thanked and given compensation for participation (i.e., individual feedback on their individual dispositions, and extra course credit if they were students of the Technische Universität Darmstadt or the University of Potsdam).

4.4.1.3 Materials

Self-esteem. Self-esteem was assessed with the Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965; German version: Collani & Herzberg, 2003). Participants rated 10 items (e.g., 'I have found a positive attitude towards myself') on a 4-point scale (1 = 'strongly disagree' to 4 = 'strongly agree').

Regulatory focus. A self-report questionnaire was developed to assess situated regulatory focus with regard to the conflict discussion. Items were developed to assess the characteristics of prevention and promotion focus (e.g., sensitivity for negative versus positive consequences, focus on achievement versus duties, etc.; see Higgins, 1997; or Werth & Förster, 2007). Participants rated these items on a 6-point Likert scale ranging from 1 (*not at all*) to 6 (*totally*). Analyzing the structure of these items with the help of exploratory factor analyses with principal axis factoring and orthogonal varimax rotation led to two factors with 3 items each (e.g., promotion focus: 'I described the chances we would have if we found a solution. '; prevention

focus: ‘I worried about the consequences if we did not find a solution for the conflict.’). To test the construct validity of the developed scales, they were correlated with an established measure of chronic regulatory focus (Lockwood et al., 2002; German version: Keller, 2008). Since the two regulatory foci often show modest positive correlations (see for example Keller & Kesberg, 2017; Lockwood et al., 2002), as did the subscales developed for this study ($r = .156, p = .014$), multivariate regressions were employed to control for the overlap. Results showed that situated promotion focus was significantly and positively related to chronic promotion focus ($\beta = .153, p = .011$), but not to chronic prevention focus ($\beta = .039, p = .568$). Situated prevention focus was significantly and positively related to chronic prevention focus ($\beta = .189, p = .004$) but not to chronic promotion focus ($\beta = .125, p = .052$).

Relationship satisfaction. Relationship satisfaction was assessed with an adapted version of the Relationship Assessment Scale (RAS; Hendrick, 1988; German version: Sander & Böcker, 1993). Participants rated 3 items (e.g., ‘How satisfied were you with your relationship?’) on a 5-point scale with regard to how satisfied they were with their relationship during the conflict discussion (1 = ‘very dissatisfied / not at all’ to 5 = ‘very satisfied / very much’).

4.4.2 Results and discussion

Reliability estimates, descriptive statistics and correlations of all variables are shown in Table 5. To test the predictions, a path model, that included all variables, was specified in MPlus 7.31 (Muthén & Muthén, 2015). Self-esteem was included as the predictor, prevention and promotion focus were included as mediators and relationship satisfaction was included as outcome variable. All possible paths were specified using maximum likelihood parameter estimation and full information maximum likelihood to deal with missing data. Indirect effects were tested with 5000 bootstrap samples and bias-corrected confidence intervals (Preacher & Hayes, 2008). Self-esteem and situated promotion focus were not significantly related ($B = .056; p = .380$)⁹. Self-esteem was significantly and negatively related to situated prevention focus ($B = -.141; p = .025$), indicating that high self-esteem individuals were less likely to report prevention focus tendencies with regard to the discussion. Situated promotion focus was significantly and positively related to relationship satisfaction ($B = .222; p < .001$), and situated prevention focus was significantly and negatively related to relationship satisfaction ($B = -.459; p < .001$). The results indicate that participants with a promotion focus were more satisfied during the interaction, while prevention-focused participants were less satisfied.

⁹ To allow a comparison of the coefficients, all variables were standardized before specifying the model. Therefore, B 's are reported that can be interpreted as standardized coefficients.

To test the hypotheses, indirect effects were inspected. As recommended by Hayes (2013), hypotheses were considered as supported if the indirect effect was significant on the 95% bootstrap confidence intervals. The indirect effect of self-esteem on relationship satisfaction via situated promotion focus was not significant ($B = .013$; 95% CI [-.015, .042]). Thus, the hypothesis that situated promotion focus mediates the link between self-esteem and relationship quality was not supported. The indirect effect of self-esteem on relationship satisfaction via situated prevention focus was significant ($B = .065$; 95% CI [.011, .128]) supporting the hypothesis that situated prevention focus mediates the link of self-esteem and relationship quality.

The results are a first indication that regulatory focus orientations during partner interactions might play a role with regard to the association between self-esteem and relationship quality. The results show that this association is mediated through situated prevention focus (i.e., through negative associations between self-esteem and prevention focus, and between prevention focus and relationship satisfaction). Yet, the results do not show a mediation via promotion-focused self-regulation – self-esteem and situated promotion focus were not related. This could be due to contextual factors: High self-esteem individuals have been shown to report higher levels of promotion focus when they experienced a relationship threat (Cavallo et al., 2009). Yet, recalling a past conflict discussion with their partner might not have been perceived as threatening enough to activate promotion goals. Recalling past experiences can be prone to memory effects, and it might be better to study interaction behavior in actual interactions. In addition, the study did not account for the dyadic nature of romantic relationships, and could thus, not examine underlying processes of the interpersonal effects that have been found for the association of self-esteem and relationship quality (Erol & Orth, 2013; Robinson & Cameron, 2012). The study also focused on self-reports, which might be problematic as they might measure self-presentation tendencies with regard to self-esteem, and increase the risk of shared method bias (for discussions see Baumeister et al., 1989; Podsakoff et al., 2012). Those limitations are addressed in Study 2.

Table 5*Internal consistencies, descriptive statistics, and correlations between all variables (Study 1)*

		α	M	SD	r		
					2	3	4
1	Self-esteem	.888	3.17	0.53	.056	-.141*	.134*
2	Situated promotion focus	.725	3.63	1.07		.156*	.153*
3	Situated prevention focus	.675	4.12	1.13			-.432***
4	Relationship satisfaction	.838	3.35	0.89			

Note. * $p < .05$. *** $p < .001$.

4.5 Study 2

Study 2 extended the model tested in Study 1 in several ways to get a more fine-grained picture of the underlying processes of the link between self-esteem and relationship quality. First, Study 2 included the Implicit Association Test (IAT) as a measure of implicit self-esteem in addition to a measure of explicit self-esteem. IATs measuring a person's implicit attitudes towards a concept have been adapted to assess peoples' implicit attitudes towards their personality (e.g., Greenwald & Farnham, 2000; Klavina et al., 2012; Schmukle et al., 2008). The importance of implicit self-esteem in social context has also been shown as it has been related to closeness in significant relationships (Peterson et al., 2015). In addition, it has been discussed that implicit self-evaluations can be activated automatically, and implicit self-esteem has been found as a predictor of spontaneous behaviors (Koole et al., 2001; Rudolph et al., 2010). Therefore, it is important to study implicit self-esteem alongside explicit self-esteem to provide a more complete picture of controlled and automatic processes in relation to self-regulation.

Second, Study 2 investigated actual conflict discussions among romantic partners and partners rated their relationship satisfaction directly after the discussion. In addition, independent coders rated partners' spontaneous regulatory focus tendencies during the discussion reducing the possibility of biased correlations of self-reports (Podsakoff et al., 2012). Moreover, the design of Study 2 allowed zooming in on the interaction dynamics: As social behaviors during social interactions are assumed to play an important role in the interplay of individual dispositions and relationship outcomes (Back et al., 2011), Study 2 extended the model of Study 1 by observing partners' interpersonal behavior during the conflict discussion. Chronic promotion and prevention focus have been related to adaptive (e.g., problem solving) versus maladaptive (e.g., withdrawal) conflict resolution strategies, respectively (Gao et al., 2017), and the present study aimed to test if these associations are also shown with regard to spontaneous regulatory focus adoption during actual interactions. Partners' interaction behavior has been related to relationship stability and relationship quality (Gottman & Levenson, 1992; Karney & Bradbury, 1997), and interpersonal behavior was thus included into the model as a further mediator between regulatory focus and relationship satisfaction. In addition, as data from both partners were collected, Study 2 allowed taking a closer look at the underlying processes of the interpersonal effects between one partner's self-esteem and the other partner's relationship experiences that have been found in previous studies (Erol & Orth, 2013; Robinson & Cameron, 2012).

Therefore, the hypotheses outlined in the introduction were extended to include positive interpersonal behavior as an additional mediator. Positive interpersonal behavior was also

expected to be involved in the mediation through partner associations (i.e., a positive association between one partner's positive interpersonal behavior during the discussion and the other partner's relationship satisfaction after the discussion). This led to the following hypotheses: It was proposed that situated promotion focus and positive interpersonal behavior during the conflict discussion would mediate the link between self-esteem and relationship satisfaction after the conflict discussion through positive associations of a partner's self-esteem and promotion focus, their promotion focus and positive interpersonal behavior, and their positive interpersonal behavior and relationship satisfaction (actor effect, Hypothesis 1a). In addition, it was proposed that situated promotion focus and positive interpersonal behavior during the conflict discussion would mediate the link between self-esteem and relationship satisfaction after the conflict discussion through positive associations of one partner's self-esteem and promotion focus, their promotion focus and positive interpersonal behavior, and their positive interpersonal behavior and the other partner's relationship satisfaction (partner effect, Hypothesis 1b). With regard to prevention focus, it was expected that situated prevention focus and positive interpersonal behavior during the discussion would mediate the link of self-esteem and relationship quality after the discussion through negative associations of one partner's self-esteem and prevention focus, their prevention focus and positive interpersonal behavior, and a positive association of their positive interpersonal behavior and relationship quality (actor effect, Hypothesis 2a). In addition, it was expected that situated prevention focus and positive interpersonal behavior during the discussion would mediate the link of self-esteem and relationship quality after the discussion through negative associations of one partner's self-esteem and prevention focus, their prevention focus and positive interpersonal behavior, and a positive association of their positive interpersonal behavior and their partner's relationship quality (partner effect, Hypothesis 2b)

4.5.1 Method

4.5.1.1 Procedure

Study 2 used the data of the project described in Chapters 2 and 3. Following the screening on inclusion criteria, participating couples completed a set of questionnaires independently of their partner at home, that included demographic questions and personality questionnaires (e.g., self-esteem and other constructs unrelated to the present research). At the laboratory session two weeks later, partners completed further measures independently from each other (e.g., self-esteem IAT, problem list and other measures unrelated to the present study), and were asked to take part in an adapted version of a standard partner interaction procedure used in relationship research (Levenson & Gottman, 1983). The procedure included two 10-minute conversations

(i.e., an everyday conversation, and the discussion of a conflict, please see Chapter 2.4.1 for a detailed description of the conversations). The research presented in this chapter is focused on the conflict discussion, during which couples were asked to discuss an ongoing conflict in their relationships and work towards a solution. The discussion was videotaped, and partners rated how satisfied they were with their relationship after the discussion. Couples were debriefed, thanked and given compensation for participation (20€ and individual feedback on their personality traits) at the end of the laboratory session. The video material was used by independent raters to rate partners' situated regulatory focus and interaction behavior during the conflict interaction.

4.5.1.2 Participants

Participants ($N = 137$ heterosexual couples) were aged 18 to 78 years. The mean age was 31.0 years ($SD = 12.8$ years) for female and 32.8 years ($SD = 12.7$ years) for male participants. Relationship duration ranged from 6 months to 57 years, with a mean of about 10 years ($M = 117.0$ months, $SD = 138.0$ months). Ninety one couples (66.4 %) were cohabiting and 50 couples (36.5 %) were married and 11 participants (4.0%) were divorced and engaged in a new relationship.

4.5.1.3 Materials

Explicit self-esteem. Explicit self-esteem was assessed by the emotional self-esteem subscale of the Multidimensional Self-Esteem Scale (MSES; Fleming & Courtney, 1984; German version: Schütz & Sellin, 2006). The scale consists of 7 items that are rated on 7-point Likert scales assessing either intensity (1 = 'not at all' to 7 = 'very much', 3 items, e.g., 'Do you have a positive attitude towards yourself?'; translated by the author) or frequency (1 = 'never' to 7 = 'always', 4 items, e.g., 'How often do you feel satisfied with yourself?'; translated by the author).

Implicit self-esteem. An Implicit Association Test was employed to assess implicit self-esteem (Greenwald & Farnham, 2000; Rudolph et al., 2008; Klavina et al., 2012) using Inquisit 3 (2007) programmed onto desktop computers. Pressing the 'd' and the 'k' keys, participants categorized words in the center of the screen into a combination of word categories. The categories were labeled *me* (e.g., my), *not me* (e.g., others), *pleasant* (e.g., joy) and *unpleasant* (e.g., war). The IAT consisted of 7 blocks. In blocks 1, 2, and 5 with 24 trials each, participants learned which keys are used to assign words to their respective categories. Blocks 3, 4, 6, and 7 consisted of 48 trials each. Blocks 3 and 6 were practice blocks for the combined categories and Blocks 4 and 7 were test blocks. In Blocks 3 and 4, categories *me* and *pleasant* as well as categories *not me* and *unpleasant* were combined. In Blocks 5 and 6, categories *me* and

unpleasant as well as categories *not me* and *pleasant* were combined¹⁰. Participants were asked to react as quickly as possible while avoiding errors, and, in case of an error, the time until they pressed the correct key was recorded (i.e., built-in penalty; Greenwald et al., 2003). As recommended (Richetin et al., 2015), the D-score (Greenwald et al., 2003) was computed as one score (i.e., including practice and test trials) instead of separate D-scores for practice and test trials. Blocks that combined the categories *me* and *pleasant* as well as *not me* and *unpleasant* were subtracted from blocks that combined the categories *me* and *unpleasant* as well as *not me* and *pleasant*. Thus, higher IAT scores refer to a more positive implicit evaluation of the *self* relative to *non-self*.

Relationship satisfaction. Relationship satisfaction was assessed with an adapted 2-item version of the Relationship Assessment Scale (RAS; Hendrick, 1988; German version: Sander & Böcker, 1993). Partners rated how satisfied they were with their relationship after the conflict discussion (e.g., ‘How satisfied were you with your relationship?’) on a 5-point scale (1 = ‘very dissatisfied’ to 5 = ‘very satisfied’).

Regulatory focus. Partners’ regulatory focus tendencies during the conflict discussion were rated by three independent coders. The coders watched each of the videos recorded during the couples’ conflict discussion three times: the first time to familiarize themselves with the couple’s interaction, and the second and the third time to rate the male and the female partners, respectively. The coders rated items on a 6-point Likert scale ranging from 1 (*not at all*) to 6 (*totally*). The items were similar to the ones completed by the participants of Study 1 to describe their situated regulatory focus tendencies, but were adapted to allow third-person observation of a conflict discussion. Analyzing the structure of these items with the help of exploratory factor analyses with principal axis factoring and orthogonal varimax rotation led to two factors with 5 items each (e.g., promotion focus: ‘illustrates the benefits of finding a solution for the conflict.’, prevention focus: ‘expresses concern about the conflict and finding a solution.’). Two-way mixed intra-class correlation analyses (McGraw & Wong, 1996) indicated excellent consistency of the three raters for situated promotion focus (ICC = .850) and situated prevention focus (ICC = .768; Cicchetti, 1994).

Positive interpersonal behavior. Partners’ interpersonal behavior was rated by four independent coders. There was no overlap between coders rating regulatory focus and coders

¹⁰ The present study was focused on individual differences. Thus, following recommendations by Banse and colleagues (2001), the order of these combined blocks did not vary among participants in order to reduce method variance.

rating interpersonal behavior. Interpersonal behavior was rated with the help of a translated and adapted version of the Interactional Dimensions Coding System (IDCS; Julien et al., 1989; Kline et al., 2004), that is used to evaluate various dimensions of an interaction (e.g., communication skills). The coding system, the rating process and the extraction of the factor positive interpersonal behavior of all rated dimensions is described in Chapter 3.4.2.5.

4.5.2 Results and discussion

Reliability estimates and descriptive statistics of all variables used in Study 2, as well as the results of paired samples *t*-tests and correlations between male and female participants' scores are displayed in Table 6¹¹. An Actor-Partner Interdependence Mediation Model (APIMeM; Ledermann & Bodenmann, 2006) was specified to take the non-independent structure of the dyadic data into consideration. The model included all variables of female and male partners, and correlations between the exogeneous variables and between the residuals of endogenous variables. Actor effects (i.e., intrapersonal effects of one partner's exogenous variable on his or her endogenous variable) and partner effects (i.e., interpersonal effects of one partner's exogenous variable on the other partner's endogenous variable) were tested. The model was specified in MPlus 7.13 (Muthén & Muthén, 2015) and all possible paths were specified using maximum likelihood parameter estimation, and full information maximum likelihood to deal with missing data. Indirect effects were tested with 5000 bootstrap samples and bias-corrected confidence intervals (Preacher & Hayes, 2008). Paths for male and female participants were constrained to be equal (Kenny et al., 2006) and this restricted model ($df = 26$) showed good model fit ($\chi^2 = 25.282$; $p = .503$; CFI = 1.000; TLI = 1.006; RMSEA = .000; 90% CI [.000, .065]; Schermelleh-Engel et al., 2003), when compared to the unrestricted model.

An overview of the specified model (i.e., the paths relevant to calculate the hypothesized mediation effects) and its results are depicted in Figure 3¹². *B*'s are reported that can be interpreted as standardized coefficients as all variables were standardized before specifying the model¹³ to enable comparisons of the coefficients. Results show that participants high in

¹¹ Within-person intercorrelations and between-person intercorrelations for male and female participants of all variables can be found in the appendix (Table C1 and Table C2) but should not be interpreted as they do not take the dyadic data structure into consideration.

¹² The results of all paths can be found in the appendix (Table C3).

¹³ This is necessary because the standardized coefficients produced by statistical software would differ for male and female participants due to different standard deviations, even if the paths

implicit, but not explicit, self-esteem were rated as more promotion focused during the conflict discussion (actor effects, explicit self-esteem: $B = .079$; $p = .242$; implicit self-esteem: $B = .133$; $p = .048$). Participants high in explicit and implicit self-esteem tended to be rated as less prevention focused during the conflict discussion (actor effects, explicit self-esteem: $B = -.123$; $p = .069$; implicit self-esteem: $B = -.126$; $p = .067$) but both effects missed the conventional levels of significance. In addition, participants rated as more promotion-focused during the conflict discussion were rated as showing more positive interpersonal behavior during the discussion (actor effect: $B = .471$; $p < .001$). Participants rated as more prevention-focused during the conflict discussion were rated as showing less positive interpersonal behavior during the discussion (actor effect: $B = -.310$; $p < .001$). Finally, participants who were rated as behaving more positively during the conflict discussion and their partners reported higher levels of relationship satisfaction with regard to the conflict discussion (actor effect: $B = .292$; $p = .001$; partner effect: $B = .277$; $p = .006$).

To test the hypotheses, indirect effects were inspected. Following recommendations by Hayes (2013), hypotheses were considered as supported if the indirect effect was significant on the 95% bootstrap confidence intervals, even if not all individual effects included in the product were significant. The indirect effects of explicit self-esteem on relationship satisfaction after the conflict discussion via situated promotion focus and positive interaction behavior during the discussion were not significant (actor effect: $B = .011$; 95% CI [-.005, .040]; partner: $B = .010$; 95% CI [-.004, .039]). The indirect effects of implicit self-esteem on relationship satisfaction after the conflict discussion via situated promotion focus and positive interaction behavior during the discussion were significant (actor effect: $B = .018$; 95% CI [.002, .050]; partner effect: $B = .017$; 95% CI [.002, .054]). The results indicate that the association of implicit self-esteem and relationship quality was mediated as individuals high in implicit self-esteem were rated as more promotion-focused during the conflict discussion which was related to more positive interpersonal behavior during the discussion. Positive interpersonal behavior, in turn, was associated with higher levels of the individual's and their partner's relationship satisfaction after the conflict discussion. Thus, Hypotheses 1a and 1b are supported for implicit self-esteem but not for explicit self-esteem.

The indirect actor effect of explicit self-esteem on relationship satisfaction after the conflict discussion via situated prevention focus and positive interaction behavior during the discussion

were restricted to be equal. Each variable was standardized using the full sample instead of male and female variables separately (as recommended by Kenny et al., 2006).

was not significant ($B = .011$; 95% CI [.000, .035]) but the partner effect was ($B = .011$; 95% CI [.001, .034]). Similarly, the indirect actor effect of implicit self-esteem on relationship satisfaction after the conflict discussion via situated prevention focus and positive interaction behavior during the discussion was not significant ($B = .011$; 95% CI [.000, .035]) but the partner effect was ($B = .011$; 95% CI [.001, .034]). The results indicate that the association of self-esteem and relationship quality was mediated as individuals high in explicit or implicit self-esteem tended to be rated as less prevention-focused during the conflict discussion. Prevention-focused individuals showed less positive interpersonal behavior during the discussion, and positive interpersonal behavior was positively related to their partner's relationship satisfaction after the discussion. These results support Hypothesis 2b (partner effects) for implicit and for explicit self-esteem but the results do not support Hypothesis 2a (actor effects) as the indirect effects miss conventional levels of significance.

The results of Study 2 replicate the finding of Study 1 that situated regulatory focus during conflict interactions among romantic partners can play a mediating role with regard to the link of self-esteem and relationship quality. However, the results also extend the findings of Study 1 in several aspects: In Study 2, self-esteem was assessed with an implicit measure (i.e., the IAT) and regulatory focus was rated by independent coders to provide a more complete picture of self-regulatory processes. The results show that implicit self-esteem, but not explicit self-esteem, was related to situated promotion focus during the conflict discussion indicating that implicit self-evaluative processes do play a role with regard to regulatory focus adoption.

In addition, the model tested in Study 1 was extended by including associations between regulatory focus and interpersonal conflict behavior that have been shown with regard to chronic, self-reported tendencies (Gao et al., 2017). The results show that individuals who adopted a promotion or a prevention focus, respectively, differ in their behavioral pattern when discussing a conflict with their partner. That is, the behavior of promotion-focused individuals was more positive as it was characterized by more positive affect, support and problem solving skills, while prevention-focused individuals showed less of those behaviors. The results demonstrate that it is important to take a detailed look at the underlying processes of associations between individual dispositions and relationship outcomes (as proposed by Back et al., 2011). Furthermore, the results of Study 2 zoom in on the dynamics between romantic partners (i.e., partner effects) and found that partners of individuals displaying more positive conflict behavior reported higher levels of relationship satisfaction after the discussion.

Table 6

Reliability, descriptive statistics, paired samples t-tests, and correlations between female and male partners' scores (Study2)

	Rel	Women		Men		<i>t</i>	<i>df</i>	$r_{\text{♂♀}}$
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Explicit self-esteem	.864	5.05	1.15	5.33	1.21	-2.65**	135	.451***
Implicit self-esteem	.808	0.71	0.26	0.72	0.31	-0.29	136	-.090
Promotion focus	.897	3.40	0.77	3.17	0.77	2.52*	129	.047
Prevention focus	.706	3.51	0.56	3.13	0.55	5.66***	129	.081
Positive conflict behavior	.915	5.95	1.37	5.87	1.46	0.72	113	.661***
Relationship satisfaction	.806	3.77	0.96	3.77	0.88	-0.11	129	.604***

Note. Rel.: reliability estimate (split-half reliability for implicit self-esteem and Cronbach's Alpha for all other variables), $r_{\text{♂♀}}$ = zero-order correlations between male and female partners' scores.

* $p < .05$. ** $p < .01$. *** $p < .001$.

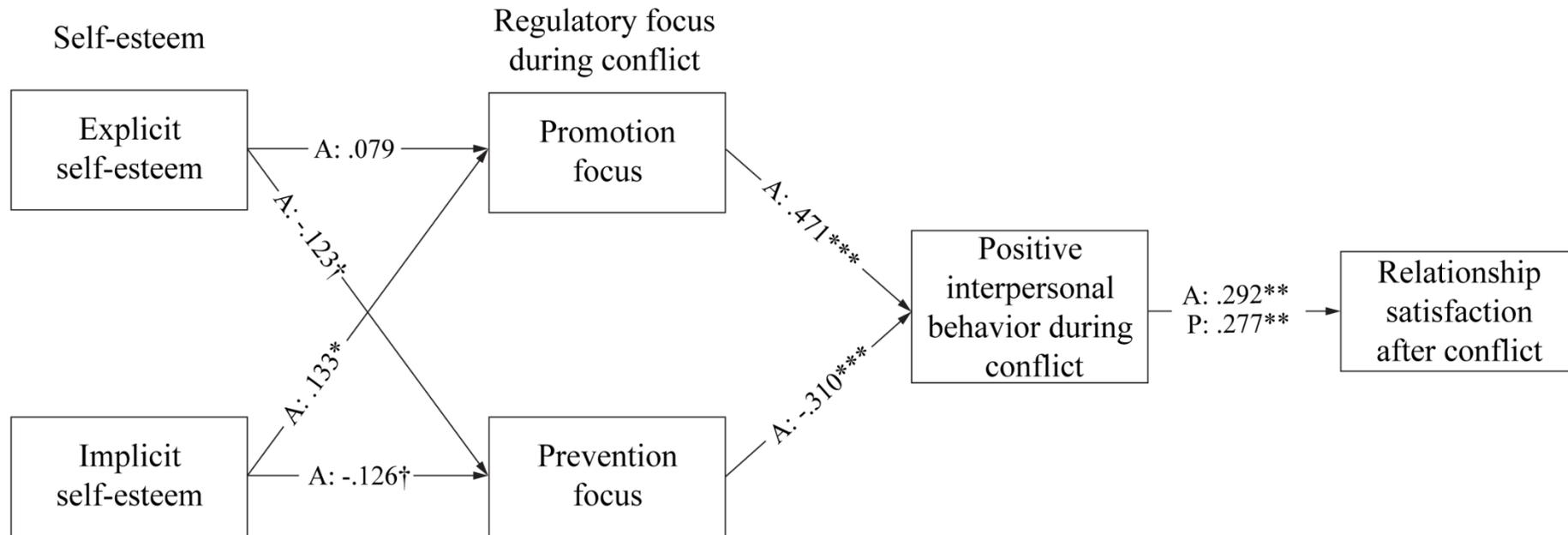


Figure 3. Schematic overview of the results of the Actor-Partner Interdependence Mediation Model with explicit self-esteem and implicit self-esteem as predictors, regulatory focus and positive interaction behavior as mediators and relationship satisfaction as outcome. The figure shows the results of the paths relevant for the hypotheses. The specified model is more complex than the figure as it included the variables for male and female participants that were constrained to be equal as well as the correlations between the predictors and between the residuals of the mediators and the outcome variables. All possible paths were specified in the model, including all actor and partner effects (e.g., the paths from explicit self-esteem to positive interaction behavior or the path from promotion focus to relationship satisfaction). Standardized coefficients are reported. A = actor effect, P = partner effect. † $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

4.6 Discussion

The two studies presented in this chapter aimed at studying whether individuals' situated regulatory foci during conflict interactions with their partners mediate the link between self-esteem and relationship quality. The results give evidence that regulatory focus does play a role with regard to this link. For example, situated prevention focus mediated the link of explicit self-esteem and relationship quality in Study 1, and situated promotion focus mediated the link of implicit self-esteem and relationship quality in Study 2.

The research bears several strengths: First, self-regulatory processes were studied with regard to social interactions that have been suggested as underlying drivers of the link between individual and relationship dispositions (Back et al., 2011). Second, spontaneous regulatory focus adoption – an important feature of regulatory focus theory (Higgins, 1997) – was studied in relation to individual dispositions as suggested by self-regulation researchers (Hoyle, 2010). Third, the research focused on conflict interactions where self-regulation is especially important (e.g., Berscheid & Ammazzalorso, 2004). Furthermore, as suggested by Back and colleagues (2011), Study 2 zoomed in on the dynamics of social situations and assessed interpersonal behavior in relation to the regulatory foci as a further mediator of the link between self-esteem and relationship quality. In addition, Study 2 focused on controlled and automatic processes and assessed self-esteem via explicit and implicit measures as they show different associations with regard to observable interaction behaviors (Rudolph et al., 2010). Although the results of the two studies are broadly aligned, the research found differences with regard to controlled and automatic processes as well as during recalled and actual social interactions. Those will be discussed in the following sections alongside suggestions for future research.

4.6.1 Self-esteem and regulatory focus

With regard to the associations between self-esteem and situated regulatory focus, the results show that explicit self-esteem was not related to situated promotion focus in Study 1 and Study 2, but that individuals with higher levels of implicit self-esteem were rated as more promotion-focused in Study 2. The results are an indication that controlled and automatic processes differ with regard to the association of self-esteem and situated promotion focus. With regard to explicit self-esteem, previous research has found that high self-esteem individuals reported more promotion tendencies when they experienced a threat to their relationship (Cavallo et al., 2009). Considering that reactions guided by implicit self-esteem have been discussed as more intuitive and as being activated more easily compared to reactions guided by explicit self-esteem (Olson et al., 2007), the results might indicate that the 'intuitive' system perceived a threat during the conflict discussion, but the more controlled, explicit system did not. Further

research is needed to disentangle those processes. It could focus on the circumstances under which implicit and explicit self-esteem are related to promotion focus. For example, future research could study the moderating effect of the severity of a conflict as a measure of relationship threat to advance the knowledge on when a threat is perceived and how it relates to promotion focus adoption.

With regard to the associations of self-esteem and prevention focus, results showed that individuals with higher levels of self-esteem reported less prevention focus with regard to the recalled conflict discussion in Study 1. In Study 2, individuals with higher levels of self-esteem tended to be rated as less prevention-focused during the conflict discussion, but the paths missed the conventional levels of significance. Different reasons might have contributed to these results, and future research is needed to better understand these differences. For example, future research should assess whether the associations of self-esteem and prevention focus in Study 1 are inflated due to shared method variance (Podsakoff et al., 2012), or if design differences (i.e., recalling focus adoption of a past interaction versus being observed during an interaction) had an effect. Considering the complex model tested in Study 2 with indirect effects over two mediators while controlling for alternative mediating processes, future research should also ensure a larger sample to guarantee sufficient power.

Overall, the results presented in this chapter mirror previous findings that self-esteem is positively related to promotion focus and negatively related to prevention focus (Higgins et al., 2008; Lanaj et al., 2012). In addition, the results support propositions of regulatory focus theory that individuals can adopt a situated regulatory focus due to situational context (Higgins, 1997). However, unlike many studies inducing regulatory focus, the present research shows that regulatory focus adoption can occur naturally and in relation to one's individual dispositions.

4.6.2 Regulatory focus and relationship outcomes

With regard to interpersonal outcomes of regulatory focus, the results of Study 1 and Study 2 were more aligned. Promotion-focused individuals in Study 1 reported higher levels of relationship satisfaction with regard to the conflict discussion, while promotion-focused individuals in Study 2 showed more positive interpersonal behavior during the conflict discussion with their partner, which in turn was related to higher levels of relationship satisfaction. Prevention-focused individuals in Study 1 reported lower levels of relationship satisfaction with regard to the conflict discussion, and prevention-focused individuals in Study 2 showed less positive interpersonal behavior during the conflict discussion. Those results mirror previous findings showing that regulatory focus is important in the context of close relationships and partner interactions, and that promotion focus is related to positive

interpersonal outcomes, while and prevention focus is negatively related to those outcomes (e.g., Gao et al., 2017; Winterheld & Simpson, 2011). In addition, the results support suggestions made by personality researchers that interpersonal effects (i.e., associations between one partner's dispositions and the other partner's relationship outcomes) are shaped by interindividual processes during social interactions (Back et al., 2011). Study 2, taking the dyadic design of romantic relationships into consideration, included data of both partners and thus tested interpersonal effects between one partner's interpersonal behavior and the other partner's relationship satisfaction. The results indicate that when a partner showed more positive behavior during the discussion, their partner reported higher levels of relationship satisfaction after the discussion. Future research could expand these findings by building on the model tested in the present research but focusing on specific conflict behaviors individuals display when they have adopted a promotion versus a prevention focus. In Study 2, individuals' general positive interaction behavior was rated following a coding system including codes on affect, verbal and nonverbal behavior, or listening skills. However, previous research has found that chronic regulatory foci was related to more specific conflict resolution patterns (Gao et al., 2017) and it would be interesting to learn if situated promotion versus prevention focus are related to different conflict resolution patterns during actual partner interactions.

In conclusion, the two studies of the present research contribute to the literature on regulatory focus and its role with regard to the link of individual dispositions and relationship outcomes. The results show that regulatory focus adoption during challenging interactions among romantic partners can mediate the link of self-esteem and relationship quality. Thus, the results support suggestions made by different authors that individual dispositions can shape online self-regulatory processes during social interactions, that in turn are associated with psychological and relationship functioning (Back et al., 2011; Hoyle, 2010). However, the results of the two studies are not completely aligned and future research is needed to better understand under which circumstances regulatory foci are adopted in relation to self-esteem and social context.

5 General discussion

The present research aimed to contribute to the literature on the associations of individual dispositions and relationship outcomes by taking a focus on the role of self-regulation. Three research questions were derived from frameworks suggesting that individual dispositions are expressed through self-regulatory processes, and that cognitive, emotional, motivational or behavioral processes during social interactions play a crucial role with regard to the associations between individual and relationship dispositions (Back et al., 2011; Hoyle, 2010; Scholer & Higgins, 2010). Hypotheses were derived with regard to self-regulation theories and variables that have been shown to be relevant in the context of romantic relationships. Furthermore, the research focused on controlled and automatic processes to provide a more complete picture of self-regulatory processes. An overview of the results as well as their integration into the literature on individual dispositions, self-regulation and romantic relationships is provided in the following sections. In addition, strengths and limitations of the approach taken in this dissertation, and ideas for future research will be discussed.

5.1 Answering the research questions

Chapter 2 addressed the question whether emotion regulation mediates the link of insecure adult attachment styles and relationship quality. The results indicate that, as expected, avoidant and anxious individuals show a distinct pattern of emotional responses with avoidant individuals engaging in deactivating strategies (e.g., expressive suppression) and anxious individuals engaging in hyperactivating strategies (e.g., aggressive externalization) when discussing an ongoing relationship conflict. The results are in line with suggestions of attachment researchers that adult attachment styles shape individuals' emotional responses in challenging situations (Mikulincer et al., 2003; Shaver & Mikulincer, 2002). In addition, the results further the knowledge on the interpersonal consequences of emotion regulation that have been described with regard to habitual emotion regulation tendencies in previous studies (e.g., Gross & John, 2003). The research presented in Chapter 2 extends these findings by showing that naturally occurring emotion regulation plays a role in how partners perceive their relationships. Furthermore, the results mirror suggestions that emotional processes during recurring social interactions play an important role in the link of individual and relationship dispositions (Back et al., 2011), and they demonstrate that sophisticated dyadic research designs assessing spontaneous emotional processes during actual social interactions are necessary to scrutinize this link.

Chapter 3 focused on the question whether automatic emotion regulatory processes shape interpersonal outcomes. The Emotion Regulation IAT (ER-IAT, Mauss et al., 2006) was adapted to measure implicit aspects of expressive suppression (Suppression IAT) – an important emotion regulation strategy in social context (Gross et al., 2006). The results show that a positive implicit evaluation of expressive suppression was negatively related to relationship outcomes, such as relationship satisfaction and positive partner communication. However, the results showed differences for male and female participants. For example, male participants holding positive implicit attitudes towards expressive suppression and their partners reported lower levels of relationship satisfaction, but this effect was not found for female participants holding positive implicit attitudes towards expressive suppression. Overall, the results mirror previous findings on explicit expressive suppression and interpersonal outcomes (e.g., Butler et al., 2003; Impett et al., 2012), but they indicate that automatic emotion regulatory processes do play a role in everyday life as suggested by emotion regulation researchers (Gyurak et al., 2011). Therefore, the results demonstrate that implicit aspects need to be considered when studying interpersonal outcomes of emotion regulation.

Chapter 4 focused on the question if the adoption of situated regulatory foci during conflict interactions among romantic partners mediate the association of self-esteem and relationship quality. Two studies addressed this question with regard to recalled (Study 1) and actual (Study 2) conflict discussions. Self-esteem was assessed with explicit and implicit measures to provide a picture of controlled and automatic processes. In sum, the results confirm the hypotheses that situated promotion and prevention foci play a mediating role with regard to the association of self-esteem and relationship quality, and they support the findings of previous studies showing associations between self-esteem and regulatory focus (Higgins et al., 2008; Lanaj et al., 2012) and between regulatory focus and relationship outcomes (see for example Winterheld & Simpson, 2011; Gao et al., 2017). However, the research found differences with regard to the associations of explicit versus implicit self-esteem and regulatory focus indicating the need to investigate controlled and automatic processes with regard to self-regulation in social context. In addition, they support scholars' suggestions that individual dispositions affect self-regulation processes and that these processes play a mediating role in the interplay of individual and relationship dispositions (Back et al., 2011; Hoyle, 2010).

The results of this dissertation contribute to the literature on the interplay of individual and relationship dispositions in different ways. The research focused on self-regulation which is particularly relevant in the context of intimate relationships because intimate relationships are characterized by partner interdependence and mutual expectations that might make self-

regulation necessary in the case of conflicting interests or unfulfilled expectations (Berscheid & Ammazzalorso, 2004). Self-regulation skills among romantic partners have been related to relationship outcomes in previous research. For example, relationship self-regulation (RSR; Halford et al., 1994) has been related to increased relationship satisfaction (Halford et al., 2007). Relationship self-regulation is a concept taught in couple therapy to enable partners to contribute to a successful relationship by monitoring how their own behaviors affect the relationship and by setting goals for behavioral change (for a further overview see Rackham & Larson, 2020). However, self-regulation does not only encompass strategies and skills individuals can learn, and researchers have pointed out that theories on self-regulation, such as regulatory focus theory (Higgins, 1997), describe human goals and needs, and thus, offer explanations as to why, or when, individuals adopt certain strategies to achieve those goals and how this might affect psychological outcomes (Winterheld & Simpson, 2018). In addition, self-regulation researchers have suggested that individual dispositions shape online self-regulation processes with regard to their association with psychological functioning (i.e., distal-proximal framework, Hoyle, 2010). The results presented in this dissertation support those suggestions showing that individuals engage in very specific self-regulation strategies (e.g., emotion regulation and regulatory focus, Chapters 2 and 4) based on their individual dispositions (e.g., adult attachment and self-esteem, Chapters 2 and 4). In addition, the self-regulation theories used to derive the hypotheses of the present research offer explanations as to why a strategy can be beneficial for relationships (e.g., promotion-focused individuals' tendency to focus on positive aspects and outcomes and to offer creative solutions; Higgins, 1997; Winterheld & Simpson, 2011). Those associations were also investigated in the present research (e.g., interpersonal outcomes of emotion regulation, Chapters 2 and 3). Thus, the present research offers insights into the impact of naturally occurring self-regulation with regard to romantic relationships beyond general monitoring and goal setting skills.

The research also supports suggestions made by personality researchers that emphasize the importance of social interactions and emotional, motivational, and behavioral processes among the interaction partners in the interplay of individual and relationship dispositions (Back et al., 2011). Self-regulation strategies, such as emotion regulation and regulatory focus, are often adopted 'in the presence of other people' (Gross et al., 2006, p. 22), or due to situational context (Higgins et al., 2008), and the research presented in Chapters 2 and 4 took those considerations into account by studying self-regulatory processes during partner interactions. The results show that individual dispositions, such as self-esteem, relate to individuals' goals and strategies (i.e., prevention or promotion focus) during challenging partner interactions, and that those strategies

shape differences in partners' behaviors and their perceptions of their relationship quality with regard to these situations (Chapter 4). The results demonstrate that focusing on actual partner interactions allow examining spontaneous (i.e., naturally occurring) regulation in relation to partners' individual dispositions, which offers a more fine-grained picture of relationship processes.

Furthermore, the research presented in this dissertation contributes to the literature on self-regulation in the interplay of individual dispositions and interpersonal outcomes by investigating controlled and automatic processes. According to dual-process models, individuals' behavior is directed through controlled and automatic processes (e.g., Strack & Deutsch, 2015), and the results of this research show that both processes play a role with regard to self-regulation. For example, the results presented in Chapter 3 showed that implicit attitudes towards the emotion regulation strategy expressive suppression (as an indicator of habitual suppression) shape relationship experiences and communication patterns among romantic partners. In addition, the results presented in Chapter 4 showed that explicit and implicit measures of self-esteem were related to regulatory focus tendencies with regard to challenging partner interactions. Thus, the results indicate the importance to look into automatic processes in social context in the future.

5.2 Strengths and limitations, and implications for future research

The research presented in this dissertation bears several strengths. First, the research focused on conflict interactions that are particularly relevant in the context of romantic relationships because such situations are characterized by differing opinions or unmet expectations that might make self-regulation necessary (Berscheid & Ammazzalorso, 2004). Second, the research in each chapter included a dyadic design (i.e., including data of both romantic partners) accounting for the dyadic nature of romantic relationships, and allowing to test interpersonal effects (e.g., between one partner's self-regulation and the other partner's perceptions of their relationship). Interpersonal effects were shown with regard to different research questions addressed in this research. For example, individuals engaging in aggressive externalization during the conflict discussion and their partners reported lower levels of relationship quality after the discussion (Chapter 2), and partners of individuals with positive implicit evaluations of expressive suppression perceived the communication patterns in their relationships as less satisfying (Chapter 3). However, partner effects were not found for all associations of self-regulation and relationship outcomes, which could be due to the lower statistical power of partner effects when using self-reports (Orth, 2013). However, future research should look into other reasons as well.

For example, the PERSOC framework (Back et al., 2011) suggests that interpersonal perceptions during social interactions (i.e., one partner's perception of the other partner's emotional or motivational states, or behaviors) are involved in partner effects. The present research provides insights into which self-regulatory processes can be involved in the interplay of individual and relationship dispositions, and thus, future research can extend the findings of this research by including individuals' interpersonal perceptions of their partners' regulation during social interactions to understand interpersonal effects even better.

In addition, the research presented in this dissertation used a variety of measures, including self-reports, implicit measures, and behavioral observation to offer a comprehensive picture of controlled and automatic or spontaneous regulation processes, and to assess self-regulation processes from different perspectives. The relationship outcome variables, however, were assessed via established self-reported indicators of relationship quality, such as relationship satisfaction and closeness (Fletcher et al., 2000), as well as partners' perceptions of their relationship communication patterns. Self-reports often provide the best insights into self-referential perceptions and attitudes (Brannick et al., 2010) and thus, self-reported measures of one's own relationship satisfaction and feelings of closeness towards the partner are appropriate to assess partners' perceptions of relationship quality. However, the PERSOC framework points out that individual and relationship dispositions should be considered as explicit and implicit representations of the self and relationships, respectively (Back et al., 2011). Previous research has used an implicit measure to assess an individuals' implicit evaluations of their close relationships (DeHart et al., 2011), and those evaluations were related to implicit self-esteem, and relationship satisfaction and relationship dissolution (DeHart et al., 2011; LeBel & Campbell, 2009). Relationship dissolution has also been the focus of previous relationship research and found that interaction behaviors (e.g., defensiveness and contempt) predicted divorce (e.g., Gottman et al., 1998). Building on the results of this research, it would be interesting to study to what extent the adoption of self-regulation strategies during recurring social interactions are associated with the breakdown of romantic relationships.

Taken together, the research presented in this dissertation offers insights into the width of potential processes and variables involved in the interplay of individual and relationship dispositions. However, the correlational design employed by the present research entails the caveat that causal conclusions cannot be drawn and the dissertation would be incomplete if this downside remained undiscussed. Although most of the data presented in this dissertation entailed a longitudinal component (e.g., assessing individual dispositions before a partner interaction that was used to study the mediating processes), the link of individual and

relationship dispositions has been suggested to be bidirectional (Back et al., 2011), and it is thus, possible that relationship dispositions also affect individual dispositions over the course of time. The literature used to derive the research questions of this dissertation supports the models tested in the present research (e.g., the assumption that individual dispositions are expressed through self-regulatory processes, or that insecure attachment styles shape emotional responses; Hoyle, 2010; Mikulincer et al., 2003; Scholer & Higgins, 2010) but other processes might be involved in the development of individual dispositions. For example, a longitudinal study found interpersonal effects of one partner's relationship satisfaction on the other partner's self-esteem (Schaffhuser et al., 2014), even though the majority of longitudinal findings support the self-esteem – relationship quality direction (for an overview see Erol & Orth, 2016). Schaffhuser and colleagues (2014) suggested that a satisfied person complimenting their partner and making them feel valued might contribute to the increase in the partner's levels of self-esteem and future research needs to investigate the role of the suggested processes. With regard to the question on causal directions, however, experimental designs or cross-lagged designs, that are often used to infer causal links, are challenging due to the stability of individual dispositions or when aiming to study fine-grained interaction processes on how individual dispositions shape naturally occurring self-regulation strategies during social interactions. Therefore, longitudinal studies with intervals of experience sampling are needed to better understand the direction of causality with regard to spontaneous regulation processes in the interplay of individual and relationship dispositions.

Another limitation of the research presented in this dissertation refers to the sample. As is the case for most studies on relationships (Fincham et al., 2018), the samples used in this dissertation were based on couples from a western, educated, industrialized, rich, and democratic (WEIRD, Henrich et al., 2010) society and the results might thus, not generalize to societies with different characteristics. Although some of the effects reported in the reviewed literature were based on Asian samples that showed the same patterns as findings based on western samples (e.g., avoidant individuals reporting lower levels of relationship satisfaction, Chung, 2014), previous research has also shown that the outcomes of regulation strategies can differ with regard to different cultural values. For example, research has found that expressive suppression is used less frequently among individuals with European values than among individuals with Asian values (Butler et al., 2007), and frequent expressive suppression has been related to negative outcomes, such as depressed mood and lower levels of life satisfaction, among European American participants, but not among Hong Kong Chinese participants (Soto et al., 2011). These results indicate that suppressing one's emotional expression is valued more

in some cultures shaping its adaptivity. Thus, the results stress the need to validate research findings across samples with different characteristics in order to advance the understanding of self-regulation processes.

Furthermore, future research should investigate further moderators that shape self-regulatory processes. Building on the knowledge provided by the present research, future research could zoom in on the conditions under which those self-regulatory processes are important. For example, the severity of the discussed conflicts could be analyzed to understand if situational demands increase the probability of individuals' engagement in a certain regulation strategy. Previous research has shown that when executive resources were depleted, high and low self-esteem individuals did not differ in their promotion orientations (Cavallo et al., 2012). The circumstances of self-regulation might not only shape the link between individual dispositions and self-regulation, but also the adaptivity of self-regulation strategies. Some strategies have been described to be less adaptive in social context than others (e.g., expressive suppression versus cognitive reappraisal, Gross & John, 2003). However, research has found that cognitive reappraisal might be more effortful under certain circumstances, (e.g., when applied later on in the emotion-regulatory process, Sheppes et al., 2009). And researchers have discussed potential positive consequences of suppressors being perceived as less responsive and less likeable in situations when de-escalating strategies are necessary or when distance to another person is desired (Butler et al., 2003). Those results are an indication that the antecedents and consequences of self-regulation strategies differ depending on the circumstances, and they emphasize the need to include moderating context variables when studying self-regulation. The models tested in the present research provide an overview of the self-regulatory processes involved in the interplay of individual dispositions and relationship outcomes and could thus, serve as starting point to develop research questions on potential moderating factors.

Moreover, to get a broader picture of self-regulation in everyday-life, future research could focus on other interpersonal situations. Many situations have been mentioned as examples where interpersonal processes might play a role in the interplay of individual and relationship dispositions. They include dating, sexual intercourse, or mutual planning (see Back et al., 2011); with regard to self-regulation among romantic partners, situations that include planning the shared future, or working collaboratively on a task might be relevant to expand the findings on when self-regulation is used in everyday life. A focus on different situations could also advance the knowledge on self-regulation. Different theories make suggestions on when self-regulation tendencies are needed (e.g., that adult attachment styles shape emotional responses in challenging situations, Mikulincer et al., 2003). Thus, comparing self-regulatory behaviors in

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different situations might test those predictions and therefore, advance the knowledge on self-regulation in everyday-life.

In sum, the research presented in this dissertation contributes to the literature on what makes a romantic relationship successful. It shows that self-regulatory and controlled and automatic processes play a role in partners' perceptions of their relationship quality. In addition, the results advance the idea that self-regulatory processes during partner interactions play a significant role with regard to the associations between individual dispositions and relationship outcomes.

6 References

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Appendix

Appendix A: Chapter 2

Appendix B: Chapter 3

Appendix C: Chapter 4

Appendix A

Table A1

Within-person intercorrelations of all variables (Chapter 2)

	1	2	3	4	5	6	7	8	9	10	11	12
1 Attachment avoidance		.084	.418***	.105	-.176*	-.067	.402***	.129	-.223*	-.015	-.447***	-.255**
2 Attachment anxiety	-.113		.098	.219*	.028	.284**	.023	.158†	-.145†	.322***	-.069	-.177*
3 Expressive suppression during baseline	.341***	-.021		.328***	-.109	-.042	.650***	.155	-.294**	.056	-.438***	-.199*
4 Cognitive reappraisal during baseline	.151†	.181*	.272**		.138	.003	.253**	.377***	-.092	.162†	-.330***	-.168†
5 Perspective taking during baseline	-.332***	.105	-.223*	.082		.089	-.021	.202*	.427***	.071	.061	-.033
6 Aggressive externalization during baseline	.193*	.219*	-.123	.297**	.063		.003	-.062	-.010	.530***	.027	.018
7 Expressive suppression during conflict	.349***	-.003	.639***	.305***	-.277**	-.018		.362***	-.241**	.010	-.278**	-.190*
8 Cognitive reappraisal during conflict	-.008	-.052	.137	.548***	.101	.234**	.198*		.034	.089	-.215*	-.112
9 Perspective taking during conflict	-.389***	.141	-.190*	-.022	.575***	.119	-.338***	.029		-.175*	.150†	.339***
10 Aggressive externalization during conflict	.253**	.206*	.026	.294**	-.066	.489***	.183*	.233**	-.064		-.153†	-.286**
11 Relationship quality after baseline	-.478***	-.024	-.146†	-.151†	.128	-.175*	-.134	-.088	.106	-.255**		.540***
12 Relationship quality after conflict	-.415***	-.031	-.045	-.192*	.182*	-.176*	-.238**	-.150†	.231**	-.382***	.654***	

Note. Above diagonal: female participants; below diagonal: male participants.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table A2*Between-person intercorrelations of all variables (Chapter 2)*

	1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m
1f Attachment avoidance	.258**	.061	.143†	-.001	-.076	.006	.076	-.126	-.152†	-.061	-.157†	-.158†
2f Attachment anxiety	.269**	-.134	.157†	.026	-.136	-.012	.081	.166†	-.185*	.084	-.070	-.102
3f Expressive suppression during baseline	.174*	.014	.214*	.009	-.070	-.042	.094	-.067	-.087	-.077	-.018	-.039
4f Cognitive reappraisal during baseline	.170†	-.021	.108	-.061	-.134	.002	-.039	-.034	-.135	.025	.093	.024
5f Perspective taking during baseline	.097	-.070	.061	-.026	.017	-.123	.065	-.071	-.122	.024	-.019	-.022
6f Aggressive externalization during baseline	.093	.064	-.066	.129	-.058	.324***	.026	.071	.085	.232**	-.110	-.160†
7f Expressive suppression during conflict	.058	.035	.158†	.041	-.137	-.019	.148†	.056	-.096	-.052	.032	-.008
8f Cognitive reappraisal during conflict	.022	-.144	-.014	-.038	-.149†	-.087	.038	-.046	-.042	-.036	.008	-.003
9f Perspective taking during conflict	-.203*	-.008	-.079	-.074	.125	.066	-.166†	-.047	.124	-.081	.129	.203*
10f Aggressive externalization during conflict	.215*	.026	.130	.132	-.173†	.236**	.160†	.121	-.056	.378***	-.098	-.258**
11f Relationship quality after baseline	-.265**	-.114	-.118	-.080	.031	-.163†	-.031	.135	.032	-.096	.195*	.203*
12f Relationship quality after conflict	-.310***	-.040	-.157†	-.147†	.180*	-.019	-.111	.028	.206*	-.256**	.234**	.326***

Note. f = female participants; m = male participants.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table A3

All actor and partner effects of the Actor-Partner Interdependence Mediation Model with insecure adult attachment as predictors, emotion regulation as mediators and relationship quality as outcome.

		Endogenous variables									
		Expressive suppression during baseline		Cognitive reappraisal during baseline		Perspective taking during baseline		Aggressive externalization during baseline		Relationship quality after baseline	
Exogenous variables	Path	<i>B</i>	<i>p</i>	<i>B</i>	<i>p</i>	<i>B</i>	<i>p</i>	<i>B</i>	<i>p</i>	<i>B</i>	<i>p</i>
Attachment avoidance	Actor	.372	.000	.101	.173	-.262	.000	.068	.271	-.377	.000
	Partner	.048	.485	.025	.692	.072	.256	-.008	.904	-.100	.114
Attachment anxiety	Actor	.036	.591	.197	.004	.041	.545	.250	.000	.003	.963
	Partner	.026	.716	.016	.832	-.057	.372	.050	.449	-.014	.799
Expressive suppression during baseline	Actor									-.105	.138
	Partner									.020	.778
Cognitive reappraisal during baseline	Actor									-.159	.035
	Partner									.063	.311
Perspective taking during baseline	Actor									-.005	.921
	Partner									-.029	.611
Aggressive externalization during baseline	Actor									-.007	.911
	Partner									-.096	.119

Note. Standardized coefficients are reported.

Table A3 continued

		Endogenous variables									
		Expressive suppression during conflict		Cognitive reappraisal during conflict		Perspective taking during conflict		Aggressive externalization during conflict		Relationship quality after conflict	
Exogenous variables	Path	<i>B</i>	<i>p</i>	<i>B</i>	<i>p</i>	<i>B</i>	<i>p</i>	<i>B</i>	<i>p</i>	<i>B</i>	<i>p</i>
Attachment avoidance	Actor	.154	.034	-.026	.747	-.120	.071	.015	.840	.000	.994
	Partner	-.034	.554	-.095	.152	-.169	.010	-.023	.712	-.035	.553
Attachment anxiety	Actor	-.060	.213	-.050	.434	-.001	.992	.126	.031	-.025	.642
	Partner	-.029	.575	^a		-.053	.384	.039	.543	.030	.615
Expressive suppression during baseline	Actor	.568	.000	.046	.508	-.057	.444	-.043	.530	.223	.001
	Partner	.005	.920	-.079	.268	.052	.403	.035	.579	-.038	.587
Cognitive reappraisal during baseline	Actor	.096	.172	.438	.000	-.088	.132	.110	.097	-.001	.988
	Partner	-.021	.703	.063	.307	-.047	.420	.045	.407	-.043	.491
Perspective taking during baseline	Actor	-.012	.811	.110	.088	.491	.000	-.008	.878	-.043	.436
	Partner	-.056	.245	-.117	.046	-.048	.361	-.025	.663	-.008	.890
Aggressive externalization during baseline	Actor	.049	.332	.062	.364	-.007	.911	.437	.000	.090	.115
	Partner	.040	.411	-.049	.464	.163	.004	.039	.481	.068	.234
Relationship quality during baseline	Actor	.058	.349	-.094	.209	-.010	.877	-.140	.050	.545	.000
	Partner	.061	.283	.054	.435	-.005	.951	.034	.587	.049	.395
Expressive suppression during conflict	Actor									-.176	.014
	Partner									.060	.331
Cognitive reappraisal during conflict	Actor									-.010	.868
	Partner									.042	.454
Perspective taking during conflict	Actor									.181	.003
	Partner									.075	.227
Aggressive externalization during conflict	Actor									-.179	.003
	Partner									-.174	.005

Note. Standardized coefficients are reported. ^a ♀ → ♂: *B* = .199; *p* = .023. ♂ → ♀: *B* = -.200; *p* = .027

Appendix B

Table B1

Within-person intercorrelations of all variables (Chapter 3)

	1	2	3	4	5	6	7
1 Explicit expressive suppression		.103	-.010	-.025	-.118	-.044	-.118
2 Suppression-IAT	.114		-.025	-.122	.006	-.143	-.214†
3 Relationship satisfaction	-.011	-.271**		.675***	.370***	.502***	.470***
4 Relationship satisfaction – t2	-.128	-.179	.713***		.214†	.720***	.631***
5 Positive interpersonal behavior	-.084	-.194*	.286**	.140		.182	.138
6 Affective communication – t2	-.043	-.192	.542***	.627***	.199		.643***
7 Problem solving communication – t2	-.043	-.287*	.511***	.619***	.303*	.606***	

Note. Above diagonal: female participants; below diagonal: male participants. t2: variable at 6-month follow-up.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table B2*Between-person intercorrelations of all variables (Chapter 3)*

	1m	2m	3m	4m	5m	6m	7m
1f Explicit expressive suppression	-.139	-.033	-.052	.057	.002	-.063	.013
2f Suppression-IAT	-.026	.001	.038	-.064	-.085	-.225†	-.211†
3f Relationship satisfaction	-.058	-.275**	.603***	.379**	.445***	.450***	.272*
4f Relationship satisfaction – t2	-.126	-.232*	.482***	.559***	.287*	.468***	.438***
5f Positive interpersonal behavior	.128	-.121	.361***	.124	.661***	.219†	.241†
6f Affective communication – t2	-.130	-.165	.451***	.392**	.284*	.391**	.383**
7f Problem solving communication – t2	-.001	-.171	.369**	.364**	.241†	.430***	.559***

Note. f = female participants; m = male participants. t2: variable at 6-month follow-up.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table B3

Actor and partner effects between explicit expressive suppression and the relationship outcomes of the Actor-Partner Interdependence Model with the Suppression-IAT and explicit expressive suppression as exogenous variables and the relationship outcomes as endogenous variables.

	Actor		Partner	
	<i>B</i>	<i>p</i>	<i>B</i>	<i>p</i>
Relationship satisfaction	-.005	.944	-.050	.488
Relationship satisfaction – t2	-.080	.441	-.041	.675
Positive interpersonal behavior	-.088	.194	.078	.229
Affective communication – t2	-.058	.552	-.095	.276
Problem solving communication – t2	-.064	.568	.002	.983

Note. t2: variable at 6-month follow-up. Standardized coefficients are reported.

Appendix C

Table C1

Within-person intercorrelations of all variables (Chapter 4, Study 2)

	1	2	3	4	5	6
1 Explicit self-esteem		.109	-.171†	.086	.130	.084
2 Implicit self-esteem	-.154†		-.074	-.035	-.093	-.044
3 Prevention focus	-.077	-.153†		-.022	-.362***	-.329***
4 Promotion focus	.010	.263**	.098		.384***	.019
5 Positive conflict behavior	-.013	.206*	-.288**	.511***		.462***
6 Relationship satisfaction	.007	.142	-.087	.112	.456***	

Note. Above diagonal: female participants; below diagonal: male participants.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table C2*Between-person intercorrelations of all variables (Chapter 4, Study 2)*

	1m	2m	3m	4m	5m	6m
1f Explicit self-esteem	.451***	-.184*	-.060	.043	.111	.074
2f Implicit self-esteem	-.032	-.090	.071	.071	-.012	-.023
3f Prevention focus	.026	-.058	.081	-.079	-.401***	-.286**
4f Promotion focus	-.071	.135	.094	.047	.002	.145
5f Positive conflict behavior	-.055	.104	-.277**	.077	.661***	.517***
6f Relationship satisfaction	-.003	.059	-.094	-.172†	.465***	.604***

Note. f = female participants; m = male participants.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table C3

All actor and partner effects of the Actor-Partner Interdependence Mediation Model with explicit self-esteem and implicit self-esteem as predictors, regulatory focus and positive interaction behavior as mediators and relationship satisfaction as outcome.

		Endogenous variables							
		Prevention focus		Promotion focus		Positive interaction behavior		Relationship satisfaction	
Exogenous variables	Path	<i>B</i>	<i>p</i>	<i>B</i>	<i>p</i>	<i>B</i>	<i>p</i>	<i>B</i>	<i>p</i>
Explicit self-esteem	Actor	-.123	.069	.079	.242	-.005	.923	.010	.856
	Partner	.009	.878	-.026	.697	-.009	.861	-.007	.900
Implicit self-esteem	Actor	-.126	.067	.133	.048	-.020	.714	.025	.696
	Partner	-.008	.893	.122	.063	-.037	.514	-.007	.912
Prevention focus	Actor					-.310	.000	-.024	.725
	Partner					-.329	.000	-.008	.907
Promotion focus	Actor					.471	.000	-.084	.287
	Partner					.072	.166	.030	.726
Positive interaction behavior	Actor							.292	.001
	Partner							.277	.006

Note. Standardized coefficients are reported.

Obligatory Declaration

I declare that I have developed and written the enclosed doctoral dissertation entitled “Self-regulation in the Interplay of Individual Dispositions and Relationship Outcomes” completely by myself, and have not used sources or means without declaration in the text. Any thoughts from others or literal quotations are clearly marked. This dissertation was not used in the same or in a similar version to achieve an academic grading or is being published elsewhere.

Darmstadt, 7/30/2021

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