

You, Me, and Us. An examination of self- and informant-reported extrinsic emotion regulation processes in romantic couples.

Sarah A. Walker

Faculty of Science

School of Psychology

The University of Sydney

 [0000-0002-6767-8604](https://orcid.org/0000-0002-6767-8604)

A thesis submitted in fulfilment of the requirements for the degree of

DOCTOR OF PHILOSOPHY (PhD)

January 2024

Statement of Originality

I certify that the intellectual content presented in this thesis is the product of my own work and the guidance that I received from my supervisors during my PhD candidature. All the sources that have helped in writing this thesis have been acknowledged.

This thesis has not been submitted for any other degree or other purposes.

Sarah A. Walker

23rd November, 2023

Acknowledgements

This PhD thesis is dedicated to the memory of Professor Alex Gardner, who inspired my love of research, and encouraged me to find my own voice. You are forever treasured. Vale.

I'd like to extend my deepest gratitude to my primary supervisor, Associate Professor Carolyn MacCann, whose unwavering support and encouragement has spurred me on and inspired me each step of the way. Our countless coffee meetings, invaluable discussions sharing ideas and nutting through passion projects, and the lessons I've learned during my time under Carolyn's supervision will always be treasured. I am so grateful for the support and commitment to my academic and personal growth. So much laughter. Thank you.

I have been fortunate to work with a wonderful supervision team over the past years including Dr Rebecca Pinkus who, with her ever-present encouragement, critical eye, and practical insights has helped me navigate the challenges of academia. I am so grateful for Rebecca's positivity, enthusiasm and passion for research which will continue to be a benchmark of excellence for me. And Dr Kit Double, who I have been fortunate to have worked with since undergrad and who has been there every step of my academic life so far. Kit has consistently offered valuable advice on life and careers, and has been a source of both fun, and insight!

A special note of gratitude to Associate Professor Damian Birney, who is someone I have looked up to since the first year of my undergraduate degree. Damian's lectures on intelligence sparked and incurable passion for research, and a love of questioning everything all while having a good time! Damian's enthusiasm and passion for research, and his commitment to the discipline continues to inspire me, and I am profoundly grateful for the opportunities to learn and grow under his mentorship.

Being part of a community in the School of Psychology at the University of Sydney

means being surrounded by remarkable peers. I wish I could spend a thesis length of pages expressing how much my time at the University has meant to me, the lifelong friendships that have been formed, and the truly lifechanging experiences I have had, but I will try to keep it brief.

Kelly, from our first year together as undergraduates to the end of our PhDs, you have been a rock. Never afraid to just tell me the cold hard truth, and I love you for it. Kate, a source of wisdom, kindness, and compassion. You have taught me so much just by being you! Hannah, my PhD sister, your presence has been a source of joy, wisdom and unwavering friendship and I am so grateful for all we continue to do together. Arabella and Lilly, the time has flown past since the day we all started our PhDs together and started planning out our research. I couldn't have asked for two better people to share this adventure with - I am so thankful for our 'ladies who brunch' trips, the serious research discussions, and the laughs we have shared.

To Celine (Dave, Archer, Beans, and Alfie) – unwavering encouragement, staunch support, and total fun. You were a beacon in some difficult times over the last few years, and I am so grateful for your friendship. To Hayley and Nat, the original 'shut-up and write' crew – if only I ever learned to *actually* shut-up and write! Memories I'll cherish for a lifetime. To my dear friends Dora, Poorva, and MG who I absolutely cherish – thank you so much for the laughs, the long chats – serious and fun, and for putting up with my excitable chit chat late at night when everyone really just wants to go home!

To my incredible colleagues and friends at USYD who have all influenced, encouraged, or inspired me over the past years: Edwina, James, Jacob, Sophie, Zoe, Haryana, Evan, Frans, Caroline, Ilona, Sabina, Hester, Jordan, Yueting, Louise, Ian, Caleb, Helen, Kosma, Alex, Sophia, all the PSYC100X tutors!

Lastly, none of this would be possible without the unyielding support of family. To my parents, your unwavering faith, countless acts of kindness and support have been my

bedrock. And to my husband, Liam, words may fall short, but this experience has been as much yours as it has been mine. Your insights, patience, and love have been the lighthouse in many a storm and I can't overstate how precious you are. Thank you.

In sum, this thesis is a culmination of the efforts, love, and guidance of many. My heart brims with gratitude. Thank you.

“No individual is alone responsible for a single stepping stone along the path of progress, and where the path is smooth progress is most rapid” - *Ernest Lawrence*

Publications Included in the Thesis

Chapter 2

Walker, S. A., Double, K. S., Kunst, H., Zhang, M., & MacCann, C. (2022). Emotional intelligence and attachment in adulthood: A meta-analysis. *Personality and individual differences*, 184, 111174.

I designed the study protocol, screened, extracted, and interpreted the analyses completed by the second author, and wrote the manuscript.

Chapter 3

Walker, S. A., Pinkus, R. T., Olderbak, S., & MacCann, C. (2023). People with higher relationship satisfaction use more humor, valuing, and receptive listening to regulate their partners' emotions. *Current Psychology*, 1-9.

The last author designed the study, I analysed and interpreted the data, and wrote the manuscript.

Chapter 4

Walker, S. A., Pinkus, R., Double, K. S., Xiao, H., & MacCann, C. (2023). It's What I Think You Do That Matters: Comparing Self, Partner, and Shared Perspectives of What a Romantic Partner Does to Regulate Your Emotions. [Revise Resubmit in progress] *PsyArxiv*

I designed the study, analysed and interpreted the data, and wrote the manuscript.

Name: Sarah Walker Signature:

Date: 24 November, 2023

As supervisor for the candidature upon which this thesis is based, I can confirm that the authorship attribution statements above are correct.

Supervisor Name: Carolyn MacCann Signature:

Date: 24 November, 2023

Other related publications

1. MacCann, C., Double, K. S., Olderbak, S., Austin, E. J., Pinkus, R., **Walker, S. A.**, ... & Niven, K. (2023). What do we do to help others feel better? Eight extrinsic emotion regulation processes linked to affective and interpersonal outcomes.
2. Xiao, H., Double, K. S., **Walker, S. A.**, Kunst, H., & MacCann, C. (2022). Emotionally Intelligent People Use More High-Engagement and Less Low-Engagement Processes to Regulate Others' Emotions. *Journal of Intelligence*, 10(4), 76.
3. Kunst, H., and **Walker, S.A.** (in preparation). Attachment and extrinsic emotion regulation: the relationship between adult attachment and the regulation of others' emotions.

List of Tables

Chapter 1

Table 1: Description of extrinsic emotion regulation strategies included in the regulation of Others' Emotions Scales.....	15
--	----

Chapter 2

Table 2: Studies included in the meta-analysis.....	32
Table 3: Results of the meta-analysis using the 'robumeta' package in R.....	42
Table 4: Meta-regressions for each attachment style comparing self-report EI and Ability EI.....	43
Table 5: Subgroups analysis of the various combinations of attachment and EI.....	44

Chapter 3

Table 6: Description of extrinsic emotion regulation strategies included in the Regulation of Others' Emotions Scales.....	67
Table 7: Descriptive statistics, inter-correlations of regulation processes, and prediction of relationship satisfaction.....	72

Chapter 4

Table 8: Descriptive Statistics and Correlations.....	112
Table 9: Model fit statistics for bi-factor structural equation models.....	113
Table 10: First-Level Factor Loadings on the Target and Regulator Factors.....	114
Table 11: Fully Standardized Path Estimates.....	116

Chapter 5

Table 12: Summary of significant associations between adult attachment and emotion intelligence (ability and trait).....	118
--	-----

List of Figures

Chapter 2

Figure 1: Quorum Chart of studies included in the meta-analysis.....30

Figure 2: Funnel plot assessing publication bias.....44

Chapter 4

Figure 3: Bifactor model of extrinsic emotion regulation.....111

Figure 4: Bifactor model of extrinsic emotion regulation processes (left) predicting
self-reported regulator and target relationship quality.....111

List of Appendices

Appendix A: Chapter 3 Data & Open Science.....166

Appendix B: Chapter 3 Data Codebook.....169

Appendix C: Chapter 4 Data & Open Science.....170

Appendix D: Chapter 4 Data Codebook.....171

Table of Contents

Statement of Originality	ii
Acknowledgements	iii
Publications Included in the Thesis	vi
Other related publications	vii
List of Tables	viii
List of Figures.....	ix
List of Appendices.....	ix
Abstract.....	xiii
Chapter 1: Overview of the thesis.....	1
1.1 Vignette.....	1
1.2 Chapter Overview	2
1.3 Attachment Theory	4
1.4 Emotional Intelligence	7
1.4.1 Ability Emotional Intelligence	7
1.4.2 Rating Scales of Emotional Intelligence	8
1.4.3 Emotional Intelligence and Life Outcomes	8
1.5 Emotion Regulation.....	10
1.5.1 The Process Model of Emotion Regulation.....	10
1.5.2 Extrinsic Emotion Regulation	11
1.6 Extrinsic Emotion Regulation in Romantic Couples	16
1.7 Self- and Partner-as-informant Report Measures of Extrinsic Emotion Regulation	17
1.8 General Aims and Research Questions	18
Chapter 2: Emotional intelligence and attachment in adulthood: A meta-analysis.....	20
2.2 Method	29
2.3 Results	42
2.4 Discussion	45

Chapter 3: People with higher relationship satisfaction use more humor, valuing, and receptive listening to regulate their partners' emotions.....	61
3.2 Method	69
3.3 Results	70
3.4 Discussion	73
Chapter 4: It's What I Think You Do That Matters: Comparing Self, Partner, and Shared Perspectives of What a Romantic Partner Does to Regulate Your Emotions.....	83
4.2 Method	91
4.3 Results	94
4.4 Discussion	97
Chapter 5: Discussion and Conclusion	117
5.1 Chapter overview	117
5.2 Research Summary.....	118
5.2.1 Adult Attachment and Emotional Intelligence	118
5.2.2 Extrinsic Emotion Regulation and Romantic Relationships	120
5.2.3 The Importance of Dyadic Design.....	1244
5.3 Limitations	126
5.4 Future Research Directions	128
5.4.1 Clinical Applications in Couples Therapy.....	130
5.4.2 Training Programs in the Workplace and Education.....	130
5.4.3 Family Dynamics and Parenting.....	132
5.4.4 Motives of Extrinsic Emotion Regulation	133
5.5 Concluding Statements.....	135
References.....	137
Appendices.....	166
APPENDIX A: Chapter 3 Data & Open Science	166
APPENDIX B: Chapter 3 CodeBook	169
APPENDIX C: Chapter 4 Data & Open Science.....	170
APPENDIX D: Chapter 4 CodeBook	172

Abstract

Emotions are an integral part of human life shaping our interaction with the world and the important people in our lives. In this thesis, I examine two key emotion-related constructs in adult romantic relationships—emotional intelligence and extrinsic emotion regulation (the regulation of others' emotions). Although emotion regulation research has traditionally focused on intrinsic processes (how we regulate our own emotions), there is growing interest in extrinsic emotion regulation (Gross, 2015). In Chapter 1 I conducted a meta-analysis to estimate the association between emotional intelligence and adult attachment (26 studies, $N = 6914$). Rating scales of emotional intelligence were negatively associated with attachment anxiety and avoidance but positively associated with attachment security. Ability scales were also negatively associated with attachment anxiety and avoidance but with smaller effects (significantly smaller for avoidance only). The focus of Chapters 3 and 4 was examining the strategies people use to regulate the emotions of their partner. In Chapter 3, (277 individuals, 55% female), I tested the extent to which eight extrinsic emotion regulation strategies (expressive suppression, downward social comparison, humour, distraction, direct action, reappraisal, receptive listening, and valuing) predicted relationship satisfaction. Relative importance analysis demonstrated that the three most important predictors were receptive listening, valuing, and humour. In Chapter 4 ($N = 395$ heterosexual couples), each person rated how much they used the eight strategies on their partner (self-report), and also how much they perceived the strategies were used (informant-report). I applied a bifactor model to assess the extent to which each strategy related to relationship quality, comparing: a) the unique perspective of the regulator, b) the unique perspective of the target, and c) the shared perspective (consensus) between the target and regulator. Results indicated that it is not what the regulator thinks they do to regulate their romantic partner's emotions that relates to relationship quality, but rather the target's perspective of the regulation attempt. Results demonstrate that secure, satisfied, high quality relationships are characterised by high emotional intelligence, the use of the listen-laugh-value strategies, and perceiving that your partner is using high engagement strategies to make you feel better. Such results are discussed in terms of counselling and clinical applications, and future research directions are suggested.

Keywords: emotion regulation, interpersonal emotion regulation, extrinsic emotion regulation, relationship satisfaction, romantic relationships

Chapter 1: Overview of the thesis

This chapter outlines the background of the thesis leading to research aims and the methods used to achieve these aims. Hence, the chapter aims to provide the basic structure of the entire thesis.

1.1 Vignette

One evening, Sarah greets her partner Liam as he arrives home from work. She immediately notices the slump in his shoulders and the tightness around his eyes, telltale signs of distress. Concerned, Sarah gently asks him what was wrong. With a sigh, Liam reveals that a client has been making work very difficult and has been dismissive, leaving him feeling frustrated and devalued. Sarah nods understandingly and asks if he would like to talk about it. She listens receptively, offering affirming murmurs as Liam unpacks the events of the past few weeks leading to this moment.

After recounting the situation, Liam looks at Sarah and asks, "What should I do?" Considering Liam's need for support and wishing to make him feel better, Sarah recalls Liam's past successes and his boss's frequent compliments and high regard for his work. Sensing an opportunity to improve Liam's positive affect, she tells a light-hearted joke at the client's expense, knowing Liam's appreciation for her sarcastic sense of humour. The joke earns a full-bellied laugh from Liam, as he confesses that he needed that moment of levity. He looks at Sarah with renewed warmth, expressing his gratitude for her listening ear. The moment marks a subtle but significant easing of Liam's earlier tension, and Sarah felt satisfied that she had helped Liam feel better, thus showcasing the importance of emotion regulation in their emotional connection.

1.2 Chapter Overview

The paragraphs above describe the emotional dynamics within a romantic relationship – how Sarah responds and tries to influence Liam’s emotions. Such emotional dynamics can be studied in many different ways – Sarah’s emotion-related personal characteristics (such as emotional intelligence), the attachment bond she forms with Liam, or the strategies Sarah uses to make Liam feel better. My thesis examines these emotion-related characteristics in close relationships, considering the link between emotional intelligence and adult attachment (Study 1), and the emotion regulation strategies people use to help their partner feel better (Studies 2 and 3).

In the paragraphs below, I describe the major theories I examine in my thesis, some key methodological considerations (i.e., different assessments of emotional intelligence, different points of view on emotion regulation behaviours) and the primary research questions that will be addressed in this thesis.

Emotions play an essential role in shaping our everyday experiences and social interactions. Far from experiencing these emotions passively, we actively engage in our emotional experiences, attempting to shape and influence our responses (López-Pérez & McCulloch, 2020). How we respond to emotions later in life can be understood from within an attachment framework and the development of attachment bonds in early childhood (Fraley et al., 2006). Furthermore, potentially evolving alongside our attachment processes is emotional intelligence, which refers to our ability to perceive, use, understand, and manage not only our own emotions but the emotions of others (Mayer et al., 2016). This interplay between attachment and emotional intelligence may underlie how people navigate the complexity of human emotions, which impacts not only our close relationships but also how we interact with those around us daily.

Consequently, emotion regulation is a fundamental aspect of our everyday lives, with

a large body of literature accumulated over the past several decades investigating the processes people use to influence the intensity, duration, and expression of emotions (Gross, 2002). Historically, emotion regulation research has typically focused on intrinsic processes (how someone regulates their own emotions; Gross, 1998). Nevertheless, recognition of society's interconnectedness has prompted increased interest in extrinsic emotion regulation (how someone attempts to regulate the emotions of others; Gross, 2015). Indeed, the substantial body of work that is developing in this area (Nozaki & Mikolajczak, 2020) underscores its emerging relevance in the ways we attempt to understand emotion functioning (Dixon-Gordon et al., 2015; Ford & Gross, 2017; Kwon & López-Pérez, 2019; López-Pérez & McCulloch, 2020; MacCann et al., 2023; Nozaki & Mikolajczak, 2020).

The emerging evidence suggests individuals (across the life span) attempt to regulate the emotions of others (Kwon & López-Pérez, 2019; Niven, Macdonald et al., 2012; Nozaki & Mikolajczak, 2020; Williams et al., 2018). For instance, considering the example of Sarah and Liam at the start of this chapter, we saw Sarah (the regulator) using various strategies when attempting to make Liam (the target) feel better (extrinsic regulation of emotions). Indeed, the strength of adult attachment bonds, particularly within romantic relationships, offers a compelling context for extrinsic regulatory processes, suggesting they may be most relevant within these close relationships. The existing body of research suggests the regulatory processes people use to influence others' emotions have substantial consequences across many domains, including physical and mental well-being (Hawkely & Cacioppo, 2010), social well-being (Williams et al., 2018), and romantic relationship satisfaction (Vater & Schröder-abé, 2015). Moreover, how romantic couples respond to negative emotions may impact not only how satisfied the couple is in their relationship (Vater & Schröder-abé, 2015) but also the mental health and well-being of each partner within that relationship (Cheung et al., 2015; Williams et al., 2018).

The process of extrinsic emotion regulation necessarily involves at least two people. Consequently, the strategies used in a regulation attempt can be viewed from the perspectives of at least two people: the regulator and the target. These perspectives may not always converge; the target may not notice a regulation attempt is being made or may misinterpret a regulation attempt. For example, the regulator may encourage the target to reappraise a situation, but the target may interpret the reappraisal attempt as unwanted advice. One commonly used method to investigate different perspectives in the area of personality assessment is informant-reports (where a knowledgeable informant rates a target's personality). This method can be applied in the context of extrinsic emotion regulation research to examine: a) differences in regulator and target perceptions of extrinsic emotion regulation attempts, b) how effective/successful these attempts are, and c) how much these regulation attempts predict personal and relational well-being outcomes. In essence, the regulator self-reports their use of discrete extrinsic emotion regulation processes. At the same time, the target provides an informant-report on how much their partner uses those same discrete extrinsic emotion regulation processes to regulate the target's emotions.

The principal aims of this thesis are to extend the area of extrinsic emotion regulation research in three ways. First, I will examine the association between adult attachment and emotional intelligence, laying the foundation to explore the closest of adult attachment bonds (romantic relationships) and what people do when attempting to regulate their partner's emotions. Second, I will examine the specific processes people report using to regulate their partner's emotions and how this relates to relationship satisfaction. Finally, I will assess the extent to which the unique perspectives of the regulator and target and their shared perspectives relate to the self-reported relationship quality of both romantic partners.

1.3 Attachment Theory

Attachment theory proposes that early relationships with caregivers shape an

individual's emotional availability and support expectations in later life (Ainsworth et al., 1978; Bowlby, 1970). Initially examined within the context of child development, attachment styles were identified according to the nature of the child's relational experiences with primary caregivers (Ainsworth et al., 1978). Bowlby's theory suggests that the internalisation of early attachment bonds (internal working models) formed through early attachment experiences become the foundation for future emotional bonds, such as those found in romantic relationships. For example, a child who frequently encounters cold dismissal and disapproval when seeking support from an attachment figure may develop an avoidant internal working model. When this learned expectation is reinforced over time, the expectation becomes prototypical of future relationships (Zimmerman, 1999).

Building on the early foundations of attachment, Bartholemew and Horowitz (1991) developed an expanded four-dimensional categorical model of adult attachment integrating the *self* and *other* perspectives in relationships. This model comprises (a) *secure* attachment reflecting an individual's positive feeling toward themselves and others, (b) *preoccupied* attachment reflecting negative beliefs about oneself compared to positive beliefs about others culminating in fear of abandonment (Main et al., 2003), (c) *dismissive* attachment reflecting positive feelings toward oneself and negative feelings toward others, and (d) *fearful* attachment reflecting an unstable, confused view of oneself and others. Although an advantage of this categorical model of attachment is that it provides a clear, simple classification of individuals into discrete categories, a limitation of such models is that it can be difficult to detect meaningful change where the variation is better conceptualised continuously rather than categorically (Fraley et al., 2015).

Accordingly, a two-dimensional framework for attachment was proposed conceptualising attachment along axes of avoidance and anxiety (Esbjorn et al., 2015; Hazan & Shaver, 1987; Kobak & Hazan, 1991; Kobak & Sceery, 1998; Main et al., 2003;

Mikulincer et al., 1998). Avoidant attachment is understood as discomfort with closeness and a tendency to avoid emotional intimacy, while a preoccupation with relationships and fear of abandonment characterises anxious attachment. Avoidant and anxious attachment are often referred to more generally as *insecure attachment*. These two dimensions contrast with a secure attachment style, in which an individual does not fear rejection or abandonment and is comfortable with intimacy and seeking support as needed (Fraley & Shaver, 2021). In contrast to the typical categorical model, this dimensional approach offers a more nuanced approach, thereby enhancing our understanding of individual differences in attachment. Recent research indicates a dimensional model more accurately captures the variation of attachment behaviours (Fraley & Shaver, 2021). Nevertheless, this two-dimensional model incorporates elements of the earlier categorical model, with *avoidance* comprising a *fearful and dismissive* attachment style and *anxiety* forming a *preoccupied* attachment style.

Hazan and Shaver's (1987) work expanded attachment research, which typically focused on the child-caregiver relationship. They identified and examined the parallels between children's sense of security from their attachment figures and the similar security adults experienced in stable romantic relationships. That is, during adulthood, people typically seek comfort and support from their romantic partners; one's romantic partner becomes the attachment figure they turn to for support and comfort during times of distress. In fact, securely attached individuals tend to report higher relationship satisfaction and less conflict than those with insecure attachments (Hazan & Shaver, 1987). As such, those with secure attachment are more likely to compromise and engage in mutually beneficial conflict resolution (Shi, 2003), even using strategies such as humour and more positive affect to reduce the distress of conflict (Creasey, 2002; Paley et al., 1999). The extension of attachment theory to adult relationships underscores the enduring impact of early attachment patterns on the formation and maintenance of close relationships, such as romantic

relationships, later in life.

1.4 Emotional Intelligence

Multiple EI models can be classified into two categories based on the type of measurement technique used. Ability scales (ability EI) assess emotional intelligence as a cognitive ability by using test items requiring information processing and knowledge to reach maximum performance (Mayer et al., 2016). Rating scales capture emotional intelligence as a personality construct (Petrides, 2010). Trait emotional intelligence, which is the commonly known term for emotional intelligence rating scales, is based on the dominant measurement tool and conceptual model, the Trait Emotional Intelligence Questionnaire (TEIQue; Petrides, 2010). Both ability scales and rating scales share the same label of "emotional intelligence," but they assess different constructs. Ability emotional intelligence test scores show moderate correlations with general intelligence and small to moderate correlations with personality, whereas rating-scales of emotional intelligence rating-scales show large associations with personality traits, notably lower neuroticism and higher extraversion (Joseph & Newman, 2010; Olderbak et al. 2019; van der Linden et al., 2017). Ability scales and rating-scales emotional intelligence are only modestly related to each other (e.g., meta-analytic correlations of .12 to .26; Joseph & Newman, 2010).

1.4.1 Ability Emotional Intelligence

The concept of Ability emotional intelligence encompasses the ability to perceive, use, understand, and regulate one's own and others' emotions (MacCann et al., 2020; Mayer et al., 2016). The four core competencies that constitute the branches of emotional intelligence are perceiving emotions, using emotions, understanding emotions, and managing emotions. Commonly referred to as the Four-Branch Hierarchical Model, Ability emotional intelligence is typically measured using tests of maximum performance; for example, asking

test-takers to identify the emotion displayed in a facial expression or evaluate the effectiveness of a proposed action in managing an emotional situation. These abilities are important for social function, particularly within a dyadic context. Individuals with higher emotional intelligence may be quicker at noticing and responding to their own emotions and more adept at communicating these emotions to others (Mayer & Salovey, 1990).

1.4.2 Rating Scales of Emotional Intelligence

Slightly different theoretical models underpin different rating scales of emotional intelligence. Some scales are based on the ability models, where test-takers rate their skills in emotion perception, application, comprehension, and management (Petrides & Furnham, 2001). Other scales draw upon broader theoretical models encompassing a range of dispositions such as empathy, impulsiveness, self-esteem, social competence, and trait happiness. One of the dominant models is Trait emotional intelligence, which, as noted above, is commonly measured using the TEIQue (Petrides, 2010). In this model, 16 emotional intelligence facets are organised into four over-arching emotional intelligence domains (well-being, self-control, emotionality, and sociability), which can be aggregated into a single ‘Trait emotional intelligence’ score. It has been suggested that Trait emotional intelligence should be conceptualised as a lower-order personality construct capturing variance not accounted for by existing personality measures (Petrides et al., 2007). In this thesis, I use the term ‘Trait EI’ generically to refer to all emotional intelligence rating scale measures (including, but not limited to, the TEIQue).

1.4.3 Emotional Intelligence and Life Outcomes

Meta-analyses show that both Ability emotional intelligence and Trait emotional intelligence are associated with valued life outcomes. These include academic performance, job performance, job satisfaction, well-being, and both mental and physical health (Joseph & Newman, 2010; MacCann et al., 2020; Malouff et al., 2014; Martins et al., 2010; Miao et al.,

2017; Sánchez-Álvarez et al., 2016). The meta-analyses that tested emotional intelligence type (Ability versus Trait) as a moderator found that the relationship between emotional intelligence and these outcomes was generally stronger for rating scales than for ability scales (possibly due to shared method variance given the outcome measures are also assessed with rating scales) (Joseph & Newman, 2010; Malouff et al., 2014; Martins et al., 2010; Miao et al., 2017; Sánchez-Álvarez et al., 2016). Academic performance was one exception, where ability scales showed a stronger relationship with emotional intelligence (MacCann et al., 2020). Although the two papers examining relationship satisfaction did not test whether emotional intelligence type moderated the findings, Trait emotional intelligence will likely show stronger effects on relationship satisfaction than Ability emotional intelligence (given results for other outcome variables and the potential for shared method variance given that relationship satisfaction is assessed with rating scales).

Emotional intelligence has also been associated with relationship satisfaction (Brackett et al., 2005). Romantic relationships inherently involve deep emotional engagement requiring adept emotional abilities. Qualities frequently associated with emotional intelligence, such as the capacity for empathic understanding, a cooperative attitude, and the ability to seek and maintain affection, are key components to facilitate successful romantic and social relationships. Higher levels of emotional intelligence are often reported by people who are satisfied in their relationships and who report greater feelings of love toward their partner or expectations that they will experience higher satisfaction in future relationships (Schutte et al., 2001; Ziedner & Kaluda, 2008). Individuals with high emotional intelligence typically enjoy better friendship quality and are perceived positively, as reported by both self- and informant-reports (Lopes et al., 2004; Lopes et al., 2003). In contrast, in romantic couples where both members exhibited lower emotional intelligence, they had poorer ratings of relationship quality and fewer occasions of social support (Brackett et al., 2005).

1.5 Emotion Regulation

1.5.1 The Process Model of Emotion Regulation

The Process Model of emotion regulation provides a theoretical framework for understanding how individuals manage their emotional experiences through a set of systematic strategies (Gross, 1998). The Process Model outlines the cognitive and behavioural processes involved in emotion regulation, proposing that emotion regulation occurs through a sequential process involving situation selection (prior to the situation), modification (situation stage), attention deployment (attention stage), cognitive change (appraisal stage), and response modulation (response stage).

However, given the complex social nature of emotion regulation, the Extended Process Model of emotion regulation (Gross, 2015) expands on the original model, incorporating additional complexities and nuances important for our understanding of how emotions are regulated. The Extended Process Model proposes that extrinsic emotion regulation is a multi-stage process occurring over time and involving several stages, including identification, selection, and implementation. The identification stage involves perceiving someone else's emotion and evaluating whether the emotion needs to be regulated. The selection stage involves selecting a strategy to target a specific stage of the target's emotion generation system. For example, strategies used earlier in the generative process (i.e., prior to the situation or situation modification) are thought to be more effective strategies for regulation than those implemented at the later stages (i.e., deploying expressive suppression at the response stage; Webb et al., 2012). The implementation stage involves applying the selected strategy to fulfil an emotion regulation goal. Nozaki and Mikolajczak (2020) have proposed such regulation goals can be put into three categories: (a) situation modification goals, which involve changing the external environment for regulation; (b) emotion modification goals, which involve influencing one's own or another person's

emotions, and (c) relationship modification goals which involves changing the way two people interact when attempting to regulate the other's emotions. For example, in a romantic relationship, this might involve perceiving a partner as feeling anxious and then changing the way you interact with that partner to help them feel better and provide emotional support. Over and above the original Process Model, the Extended Process Model acknowledges that emotion regulation is not merely an individual process but also occurs within the dynamics of social interactions and relationships.

1.5.2 Extrinsic Emotion Regulation

As emotion regulation often takes place in social contexts (Butler & Gross, 2009; Rime, 2007; Thompson, 1994), the concept of emotion regulation is therefore understood as an attempt to influence the emotional experience of others – such as a teacher calming an anxious student, a manager inspiring enthusiasm within their team, or comforting a friend (Niven et al., 2012; Nozaki & Mikolajczak, 2020; Tamminen et al., 2019; Zaki & Williams, 2013).

Specifically, a key goal of extrinsic emotion regulation is to influence the emotional experience of another person, either affect improving (hedonic regulation that aims to increase positive feelings or decrease negative ones) or affect worsening (contra-hedonic regulation that aims to decrease positive feelings or increase negative ones) (Nozaki & Mikolajczak, 2020). Despite the similarities between intrinsic and extrinsic emotion regulation, there are important differences. The main difference is that extrinsic regulation involves two people: the regulator (the person making the regulation attempt) and the target (the person whose emotions are targeted for change) (Nozaki & Mikolajczak, 2020). For intrinsic emotion regulation, only one person is acting to change their own emotions (acting as both regulator and target). In an extrinsic emotion regulation attempt, the regulator must perceive the target's emotions, identify whether they need to be regulated, and then select and

implement a strategy to regulate the target's emotions (Reeck et al., 2016).

Such regulation can be achieved through a trial-and-error approach or by considering the specific emotional context, prior knowledge of the target's preferences for regulation, and likely appraisals by the target. For example, the regulator may notice a friend feeling sad and choose to implement a regulation strategy they know the friend has responded well to in the past. After all, it is reasonable to expect that effective regulation involves understanding the emotional context and the other person's preferences using prior knowledge and insight into how the target is likely to perceive and respond to different strategies. It is worth noting that both intrinsic and extrinsic emotion regulation can occur simultaneously (i.e., a behaviour can target both my emotions and your emotions). By attempting to regulate the emotions of a distressed partner, one can also downregulate one's own emotions generated by the distress expressed by one's partner (Gross, 2008). For example, while consoling a grieving friend, the regulator may also feel better while supporting the target. The extrinsic emotion regulation process necessarily involves at least two people, and involves feedback between the regulator and the target (Nozaki & Mikolajczak, 2020), thus further underscoring the need for dyadic research in this area.

The current primary conceptual model of extrinsic emotion regulation outlines several processes that can positively or negatively influence emotions – specifically *affect improvement* and *affect worsening* (Niven et al., 2009). The studies within this thesis focus specifically on extrinsic *affect improvement*, which involves attempting to increase positive affect and decrease negative affect (pro-hedonic regulation). Recent research supports the existence of discrete extrinsic emotion regulation strategies people use to make others feel better (MacCann et al., 2023; Xiao et al., 2022). Previous work examining extrinsic emotion regulation has tended to focus on broad classes and families of extrinsic emotion regulation rather than examining the extent to which people use specific, discrete regulation strategies

(Austin & O'Donnell, 2013; Little et al., 2012; López-Pérez et al., 2019; Niven et al., 2011). For the purposes of this thesis, I have adopted the assessment proposed by MacCann et al. (2022), which goes beyond these broad classes and families to assess eight discrete emotion regulation strategies (see Table 1).

Each of these eight discrete strategies is situated within the stages of the Process Model of Emotion Regulation (see Table 1). These categories can be further classified by whether the strategies are low or high in emotional engagement. These strategies include the use of *receptive listening* to encourage the other person to express their emotions, and *valuing* them to let them know how important they are, helping a friend to *reappraise* a negative situation by changing their perspective, using *direct action* to change someone else's situation, using *humour* to lighten their mood, using *distraction* to divert their attention away from a stressor, using *downward social comparison* to help a partner reconceptualise their problem as less distressing, and using *expressive suppression* to encourage someone not to give in to tears. Although downward social comparison has been shown to improve one's emotions (Wheeler & Miyake, 1992), it is still a relatively new consideration as an emotion regulation process.

These strategies are not equally effective in terms of the emotions they produce or their downstream personal and relationship well-being outcomes. People who use receptive listening, valuing, reappraisal, and expressive suppression to regulate the emotions of other people report significantly higher positive and lower negative affect toward others (MacCann et al., 2022). In an experience-sampling study of undergraduate students, participants showed increases in positive affect but a decrease in negative affect when they received humour or reappraisal from another person since the last time point (i.e., humour and reappraisal seem effective for regulating others' emotions; MacCann et al., 2022). People with higher emotion management ability (the core component of emotional intelligence) report using more valuing

and receptive listening but less expressive suppression and downward social comparison to regulate others' emotions (Xiao et al., 2022).

In ability models of emotional intelligence, emotion management sits at the top of the hierarchy, and is defined as the ability to effectively regulate one's own and others' emotions (Mayer et al., 2016). Several researchers have argued that the emotion management branch might be further delineated into intrapersonal (managing your own emotions) and interpersonal (managing others' emotions), further developing theoretical frameworks of emotional intelligence (Brackett et al., 2006; Brasseur et al., 2013; Elfenbein & MacCann, 2017; Freudenthaler & Neubauer, 2005). If emotion management is the *ability* to regulate emotions (to set appropriate regulation goals, choose adaptive strategies and implement them effectively), then we might see different types of emotion management abilities drive different types of emotion regulation behaviours. Specifically, interpersonal management abilities should drive extrinsic emotion regulation behaviours whereas intrapersonal management abilities should drive intrinsic emotion regulation. Thus, the theoretical framework of emotional abilities (emotional intelligence) should map on to the theoretical framework of emotion-related behaviours (emotion regulation) in terms of the target person (oneself or others).

Table 1.

Description of extrinsic emotion regulation strategies included in the Regulation of Others' Emotions Scales (ROES; MacCann et al., 2022)

Process	Description	Emotional Engagement	Process Model of ER
Expressive suppression	The regulator encourages the target to avoid verbally or physically expressing their emotions.	Low	Response modulation
Downward comparison	The regulator compares the target's situation to someone who is in a worse situation.	Low	Cognitive change
Humour	The regulator tries to increase positive affect by making the target laugh (e.g., telling a joke or sharing a funny story).	Moderate	Attention deployment
Distraction	The regulator attempts to reduce negative affect by refocusing the target's attention away from the emotional event.	Moderate	Attention deployment
Direct action	The regulator directly changes the target's situation with the goal of reducing negative affect	High	Situation modification
Cognitive reframing	This occurs when the regulator encourages the target to shift the way they think about a situation in order to increase positive affect.	High	Cognitive change
Receptive listening	The regulator encourages the target to express their emotions to help reduce negative affect.	High	Response modulation
Valuing	The regulator expresses how much the target is valued and special, with the purpose of increasing positive affect.	High	Cognitive change

Note: ER = extrinsic emotion regulation

1.6 Extrinsic Emotion Regulation in Romantic Couples

Romantic relationships are considered one of the most intimate forms of adult relationships assuming a central role in the lives of many individuals. Individuals tend to start noticing the importance of romantic connections throughout the lifespan from adolescence onwards (Farley & Kim-Spoon, 2014). As such, romantic partners play a fundamental role in providing day-to-day emotional security and support, making romantic relationships a likely context in which extrinsic emotion regulation might exist (Marroquin & Noelen-Hoeksema, 2015). The exchange of emotions within a romantic couple is essential for sustaining their social cohesion (Levenson et al., 2014). For example, when one partner experiences negative emotions, their spouse may make an attempt to regulate the partner's emotions to help reduce their emotional arousal. There may be several reasons the regulator is invested in changing the emotions of the target, such as genuinely wanting the target to feel better, or because the emotions of the target negatively impact the regulator.

Prior experimental work suggests that extrinsic emotion regulation influences affective states within romantic relationships (Gottman & Levenson, 1992). Couples who use emotion regulation processes to reduce negative affect in high conflict situations tend to report higher relationship satisfaction, lower negative affect, and higher positive affect than couples who do not report use of emotion regulation processes (Gottman & Levenson, 1992). Similarly, using physical touch and humour in response to a spouse's emotional state was associated with higher positive affect (Debrot et al., 2013; Horn et al., 2019). In contrast, partners who do not effectively regulate negative emotions tend to report poorer relationship quality (Herzberg, 2013).

Identifying where emotional reactivity ends and emotion regulation begins can be an additional, challenging aspect of emotion regulation in romantic couples (Gross et al., 2011). The regulatory efforts of one partner can influence the emotions of the other partner in

unanticipated ways. For example, if Sarah is angry and her partner Liam is calm while attempting to downregulate Sarah's highly aroused emotional state, it is possible that Liam's calm demeanour further angers Sarah. Should Sarah lash out at Liam unfairly, this may result in Liam feeling hurt with his own rising feelings of anger. This can then lead to both Sarah and Liam being highly aroused, reducing the efficacy of any further regulation attempt (Levenson et al., 2014). Once emotional stability is restored it is possible for collaborative and constructive lines of communication to reopen (Isen, 1999; Wile, 2002). Whether this scenario between Sarah and Liam is due to Sarah misperceiving Liam's regulation attempt or whether it was that Liam selected an ineffective regulation process given the context is currently unclear. Further study of extrinsic emotion regulation within romantic couples has the potential to help identify appropriate processes to use in different affective contexts, but also to examine target perceptions of the regulator's regulation attempts.

1.7 Self- and Partner-as-informant Report Measures of Extrinsic Emotion Regulation

Self-report questionnaires are the most direct route to access information about a person's beliefs about themselves, their attitudes, and behaviour. Accordingly, self-report rating scales are the most common way to measure both intrinsic and extrinsic emotion regulation despite being limited by the test-takers introspective ability, or socially desirable responding (Walker et al., 2022). Within the context of emotion regulation in romantic relationships, self-reported regulation provides only one-half of the story. For example, the regulator may report using humour to make their partner feel better, but their partner may perceive this as a hostile "laughing at me" action, or may fail to perceive that sarcasm or irony are present. The target's perspective of their partner's regulation attempt is a critical factor. In addition, the target and regulator may have different perspectives on the target's emotional state and need for regulation. Inaccurate identification of the target's internal state

by the regulator may lead to the deployment of ineffective regulation processes. In such circumstances, the regulator's attempt to regulate the target's emotion may then be viewed as less effective, or inappropriate by the target leading to an increase in the target's negative affect (Levenson et al., 2014).

The overreliance on either regulator or target reports of extrinsic emotion regulation is problematic. In particular, research has focused on the regulator's self-reported use of extrinsic emotion regulation processes with the assumption that a target is unaware a regulation attempt has been made and therefore does not need to be measured (Niven et al., 2012). The adoption of informant-reports as an additional measure of extrinsic emotion regulation provides opportunities to assess the differences in perception of regulation attempts between the regulator and target, how much these perceptual differences impact the effectiveness/success of regulation attempts, and the resulting influence on personal and relationship wellbeing outcomes in romantic relationships.

1.8 General Aims and Research Questions

The current project has three primary aims:

(2) Investigate the association between attachment styles and emotional competencies within the frameworks of trait and ability EI:

The meta-analysis examines the association between attachment (styles and dimensions) and both trait and ability emotional intelligence, respectively. The objective is to establish which specific attachment styles/dimensions correlate with the core competencies associated with trait and ability EI.

(2) Examine which extrinsic emotion regulation processes have the strongest relationship with relationship wellbeing:

One study examines the extent to which discrete extrinsic emotion regulation processes predict relationship satisfaction in romantic couples from the perspective of the

regulator. The aim is to determine which extrinsic emotion regulation processes best predict relationship satisfaction.

(3) Compare the shared perspective versus unique perspective of the regulator versus unique perspective of the target in terms of their relationship to personal and relationship wellbeing.

This study will measure both what the regulator *says* they do to make their partner feel better, and what the target *perceives* their partner (the regulator) has done to make them feel better. I will use a bi-factor model to disentangle the two perspectives (regulator and target) and the shared perspective before using the model to predict a set of personal and relationship wellbeing outcomes.

Chapter 2: Emotional intelligence and attachment in adulthood: A meta-analysis

Personality and Individual Differences 184 (2022) 111174



Contents lists available at ScienceDirect

Personality and Individual Differences

journal homepage: www.elsevier.com/locate/paid



Review

Emotional intelligence and attachment in adulthood: A meta-analysis[☆]



Sarah A. Walker^{a,*}, Kit S. Double^b, Hannah Kunst^c, Michael Zhang^a, Carolyn MacCann^a

^a School of Psychology, University of Sydney, Australia

^b Department of Education, University of Oxford, United Kingdom

^c Work and Organisational Studies, University of Sydney Business School, Australia

ARTICLE INFO

Keywords:

Emotional intelligence
Attachment
Meta-analysis

ABSTRACT

Attachment styles form during childhood emotional experiences. These experiences may be shaped by emotion-related traits such as how children interpret and regulate their own and others' emotions. These emotion-related traits appear in many emotional intelligence (EI) models, such that EI may relate to attachment styles. We conduct a meta-analysis to estimate the association between EI and attachment styles (26 studies, $N = 6914$). We include only non-clinical adult samples and validated psychometric assessments. We examine EI type as a moderator, comparing ability EI versus EI rating-scales using subgroups analysis and meta-regression. We find that lower anxious attachment is significantly associated with EI rating-scales ($r = -0.25$, $k = 26$) and ability EI ($r = -0.16$, $k = 45$), lower avoidant attachment is significantly associated with EI rating-scales ($r = -0.36$, $k = 21$) and ability EI ($r = -0.21$, $k = 40$), but secure attachment is significantly associated with EI rating-scales only ($r = 0.31$, $k = 30$). EI type significantly moderated the EI/avoidant attachment association only ($\beta = -0.14$, $p = .01$). We discuss possible mechanisms by which EI could influence early development of attachment styles (and vice-versa) while acknowledging that the causal direction underlying EI/attachment associations is unclear.

Abstract

Attachment styles form in childhood by emotional experiences. These experiences may be shaped by emotion-related traits such as how children interpret and regulate their own and others' emotions. These emotion-related traits appear in many emotional intelligence (EI) models, such that EI is likely associated with attachment styles. Following a comprehensive search of the literature, we conducted a meta-analysis to test the magnitude of these relationships ($n = 24$, $N = 6,914$). Ability EI shows significant small to moderate relationships with anxious and avoidant attachment styles but is not significantly related to secure attachment. Trait EI shows significant moderate relationships with secure, anxious, and avoidant attachment styles. We discuss the possibility of attachment styles influencing EI development while acknowledging that longitudinal research is required to test this relationship's causal direction.

Keywords: emotional intelligence, attachment, meta-analysis

Emotional Intelligence and Attachment in Adulthood: A Meta-analysis

Attachment theory describes how enduring beliefs and tendencies around interpersonal relationships develop in infant-caregiver interactions and transfer to other interpersonal relationships (Fraley & Shaver, 2021). These enduring traits are known as attachment styles and are broadly defined as secure attachment versus various forms of insecure attachment (e.g., anxious, avoidant, dismissive, preoccupied, etc.). Adult attachment is thought to be influenced by childhood experiences and events, such that attachment styles are relatively stable over the adult lifespan (Bowlby, 1982; Collins & Read, 1990; Fraley, 2002; Fraley & Shaver, 2021). Adult attachment is related to intrapersonal and interpersonal factors, including personality traits, emotional capacities, affect regulation, and the attitudes, beliefs, and expectations of others (Fraley & Shaver, 2000, 2021; Kobak & Sceery, 1988; Shaver & Brennan, 1992; Wearden et al., 2008). Many of these factors underpin modern models of emotional intelligence (EI), such that there is a clear conceptual link between higher EI and adult attachment styles. To establish whether this conceptual link is substantiated by empirical relationships, below we outline a meta-analysis of the relationship between EI and attachment styles. In doing so, we consider the two different ways of measuring EI (ability scales and rating scales) and multiple different attachment styles (e.g., secure, anxious, avoidant, dismissive, preoccupied). Our goal is to establish which attachment styles are related to the emotional competencies of trait and ability EI, respectively.

Emotional Intelligence

While there are multiple EI models, these can be broadly bifurcated by the type of measurement technique used. Ability scales (*ability EI*) capture EI as a cognitive ability construct using maximum-performance test items that require information processing or knowledge. Rating scales capture EI as a personality construct. EI rating scales are commonly known as *trait EI* after the dominant measurement tool and conceptual model (the

Trait Emotional Intelligence Questionnaire, or TEIQue, Petrides, 2010). While both ability scales and rating scales share the standard label ‘emotional intelligence,’ they assess very different constructs. Ability EI test scores show moderate correlations with general intelligence and small to moderate correlations with personality, whereas self-ratings of EI show large associations with personality traits, notably lower neuroticism and higher extraversion (Joseph & Newman, 2010; Olderbak et al. 1., 2019; van der Linden et al., 2017). Ability scales and rating scales of EI are only modestly related to each other (e.g., meta-analytic correlations of .12 to .26; Joseph & Newman, 2010).

Ability EI involves processing and manipulating emotional information—it is defined as the ability to perceive, use, understand, and manage emotions (MacCann et al., 2019; Mayer et al., 2016). These four core abilities (perceiving emotions, using emotions, understanding emotions, and managing emotions) are known as branches of EI, and the theoretical model of ability EI is often referred to as the Four-Branch Model. Ability EI is measured using objective test items such as asking test-takers to identify the emotion in a facial expression or judge how effective an action would be to manage an emotional situation.

Multiple different theoretical models underpin rating scales of EI. Some rating scales are based on ability theoretical models (i.e., the test-taker provides self-ratings of their skill at emotion perception, use, understanding, and management). Others are based on broader theoretical models that include a range of dispositions such as empathy, impulsiveness, self-esteem, social competence, and trait happiness (Petrides & Furnham, 2001). One of the dominant models is *Trait EI*, which underpins the TEIQue (Petrides, 2010). In this model, 16 EI facets are organized into four over-arching EI domains (wellbeing, self-control, emotionality, and sociability), which can be aggregated into a single ‘trait EI’ score. It has been suggested that trait EI should be conceptualized as a lower-order personality construct

capturing variance not accounted for by existing personality measures (Petrides et al., 2007).

In this manuscript, we use the term ‘Trait EI’ generically to refer to all EI rating scale measures (including, but not limited to the TEIQue).

Meta-analyses show that both ability EI and trait EI are associated with valued life outcomes. These include academic performance, job performance, job satisfaction, wellbeing, relationship satisfaction among romantic couples, and both mental and physical health (Joseph & Newman, 2010; MacCann et al., 2019; Martins et al., 2010; Malouff et al., 2014, Miao et al., 2017; Sánchez-Álvarez et al., 2016). These meta-analyses suggest that the relationship between EI and these outcomes is generally stronger for rating scales than for ability scales (possibly because the outcome measures are also assessed with rating scales). The one exception appears to be academic performance, where ability scales show a stronger relationship with EI.

Emotional intelligence is also relevant to relationship quality. As relationship quality overlaps with attachment, it is reasonable to expect emotional intelligence and attachment will relate to each other. This is especially true when considering that whether the relationships are familial, friendly, or romantic, they are affected by the quality of communication, attitudes, expectations, and personal characteristics each individual brings to the relationship (for a review, see Malouff et al., 2014; Hamarta et al., 2009). Stolarski et al. (2011) found that women (but not men) high in ability EI presented constructive resolution strategies when presented with conflict. Similarly, Schröder-Abé and Schütz (2011) found that the self-reported EI of both partners was important for the perception of relationship satisfaction. Engagement in perspective-taking during conflict was positively related to EI. In friendships, higher ability EI scores (specifically the *managing emotions* branch) are positively related to the perceived quality of social interactions (Lopes et al., 2004).

Attachment Theory

Bowlby (1970) proposed that attachment theory is broadly understood as the development of emotional and social connections between people beginning in early childhood. Initially studied in the context of children, styles of attachment were identified based on how the relationship with an early caregiver was experienced (Ainsworth et al., 1978). According to Bowlby's theory, the attachment system maintains emotional and physical caregiver-infant proximity with children internalizing the early attachment relations with caregivers prototypical of later relationships. Expanding on earlier work in children, a four-dimensional model of attachment was proposed for adults (Bartholomew & Horowitz, 1991). The model is based on the image (negative or positive) individuals develop of themselves and others (Bartholomew, 1990; Bartholomew & Horowitz, 1991). The model is comprised of: (a) *secure* attachment reflecting an individual's positive feeling toward themselves and others, (b) *preoccupied* attachment reflecting the negative beliefs about oneself compared to positive beliefs about others culminating in fear of abandonment (Main et al., 2003), (c) *dismissive* attachment reflecting positive feelings toward oneself and negative feelings toward others, and (d) *fearful* attachment reflecting an unstable, confused view of oneself and others. A second, empirically supported two-dimensional model includes: (a) *anxiety* representing a fear of rejection and abandonment, and (b) *avoidance* reflecting the discomfort attributed with intimate relationships and a preference for independence (Esbjorn et al., 2015; Hazan & Shaver, 1987; Main et al., 2003). These two dimensions contrast with a secure attachment style, in which an individual does not fear rejection or abandonment and is comfortable with intimacy (Fraley & Shaver, 2021). This two-dimensional model incorporates elements of the earlier model, with *avoidance* comprising a *fearful and dismissive* attachment style and *anxiety* comprising a *preoccupied* attachment style.

The work of Hazan and Shaver (1987) extended research primarily conducted with

children and caregivers in attachment theory to include adult relationships. This was following the observation that there are similarities between the security adults feel in a secure relationship to the way children respond in a secure relationship. This is not to suggest that the relationships experienced in childhood and adulthood are identical. Rather, the core assumptions underlying attachment theory are relevant to both child and adult relationships. Like EI, attachment styles are associated with valued life outcomes, including coping strategies and perceptions in interpersonal adult relationship dynamics (Collins et al., 2006; Kobak & Sceery, 1988).

Individuals with secure attachment recognize the impact of earlier experiences and their influence on interpersonal relationships in adulthood (Collins et al., 2006; Kobak & Sceery, 1988). In periods of distress, securely attached individuals tend to recognize their emotions and tend to engage in positive emotion regulation strategies such as seeking support from others compared to their less secure counterparts (Collins et al., 2006; Kobak & Sceery, 1988). In contrast, individuals with insecure attachment styles tend not to have a range of emotional competencies to work with to lessen the severity of negative situations (Collins & Read, 1990). Individuals with a preoccupied attachment style tend to experience an intense need for a relationship accompanied by a strong fear of abandonment (Collins & Read, 1990). Similarly, individuals with dismissive attachment styles tend to present themselves as self-sufficient, hiding deep-seated distrust of their partner's ability to provide emotional and social support (Guerrero, 1996). Finally, it was found individuals with a fearful attachment style were likely exposed to parental hostility, neglect, abuse, and rejection resulting in feelings of shame and distrust of others (Bartholemew & Horowitz, 1991), yet seek external validation (Park et al., 2004). Similarly, Santascy et al. (2018) found that individuals with higher attachment avoidance tended to respond less favorably to warm, welcoming social situations suggesting a deep distrust toward the motivations of others. More generally,

attachment styles have been found to predict the perception of relationship satisfaction, eating disorders, alcoholism, and mating strategies in dating couples, indicating the lasting and lifelong impact of social bonds formed in childhood (Brennan & Shaver, 1995; Collins & Read, 1990; Mikulincer & Shaver, 2007).

An individual's attachment style tends to predict effective (or ineffective) coping strategies in interpersonal relationships (Mikulincer et al., 2004; Stevens, 2014). Individuals with insecure attachment styles tend to struggle with emotional and interpersonal relationships, romantically, socially, and in the workplace (Collins, & Feeny, 2000). Avoidant attachment is generally related to a lack of self-awareness and sensitivity to one's emotional state. In contrast, anxiously attached individuals exhibited increased affective self-awareness but difficulty identifying and managing their emotions (Mikulincer et al., 2004; Stevens, 2014). Though attachment plays a significant role in developing prototypical interpersonal relationships, EI has also been found to predict relationship satisfaction, cooperativeness, empathic perspective-taking, and intimate relationship building (Cahill et al., 2020; Schutte et al., 2001; Wollny et al., 2019). EI is an integral element of psychosocial development. Accordingly, meta-analytic findings support the positive role of high EI in the success of interpersonal relationships (Malouff et al., 2014).

EI and Attachment

Broadly speaking, attachment styles form early and may influence the later development of EI abilities and traits. Specifically, attachment styles affect how one perceives oneself and others, including one's own and others' emotions, the perceived underpinnings and consequences of one's own and others' emotions, and the typical ways of responding to emotions in interpersonal situations. These emotional characteristics form the core of both ability and trait models of EI.

For ability EI, attachment styles may affect how people perceive others' emotions,

such that differences in emotion perception may flow on to differences in other EI abilities. Meyer et al. (2004) found that avoidant and attachment styles were related to biases in the processing of facial expressions. In this study, avoidant attachment is related to higher ratings of neutral faces as passive, boring, and simple-minded. Anxious attachment is related to higher ratings of neutral faces as nervous and shy, but lower ratings of neutral faces as likable (e.g., friendly, warm, trustworthy, good-natured). These appraisal biases in face perception are strongly conceptually related to emotion perception ability—people with anxious attachment are more likely to make errors when perceiving others’ facial expressions (seeing more negative emotions and fewer positive emotions than are truly present in others’ facial expressions). In the four-branch hierarchical model of ability EI, emotion perception is the basic building block in the hierarchy (Mayer et al., 2008). The development of higher-level abilities (such as emotion understanding and emotion management) depends on an accurate perception of emotions. If you cannot detect which emotions are present, you cannot accurately develop an understanding of when those emotions occur and how they change (emotion understanding) or what strategies will be effective for changing them (emotion management). For this reason, we expect that insecure attachment styles will show a negative relationship with ability EI, as they affect the perception of emotions, which in turn affects the higher-level branches of ability EI.

For trait EI, the broad emotional competencies underlying many of the major models are linked with the interpersonal functioning that is inextricably part of attachment styles. For example, the TEIQue EI model includes wellbeing, self-control, emotionality, and sociability domains (Petrides et al., 2010). There is a clear conceptual overlap between the EI *wellbeing* domain (the wellbeing that results from positive beliefs about oneself, one’s life, and one’s future) and a secure attachment style (positive feelings towards oneself and others), an anxious attachment style (negative expectations about future rejection and abandonment).

The core shared characteristic is positive expectations (or the lack of them). Similarly, there is a clear conceptual overlap between the EI *sociability* domain (which involves communication, influencing others, and effectively forming networks with others) and an avoidant attachment style (involving a desire to avoid intimacy and strive for independence over inter-dependence). The core shared characteristic is engagement with other people (or the lack of it).

Based on the considerations outlined above, we make three hypotheses.

Hypothesis 1. EI will have a positive association with secure attachment. We predict that both ability and trait EI will have positive associations with secure attachment styles.

Hypothesis 2. EI will have a negative relationship with insecure attachment styles. We predict that both ability and trait EI will have negative associations with insecure attachment styles.

Hypothesis 3. The EI measurement method (ability versus rating scales) will moderate the EI/attachment associations, with stronger associations for rating scales than ability scales. Based on previous meta-analyses, we believe that results are likely to be stronger for trait EI than for ability EI, based both on: a) shared method effects of measurement (i.e., self-ratings for both EI and attachment); and b) the strong conceptual overlap between key models of trait EI and two major attachment styles (anxious and avoidant).

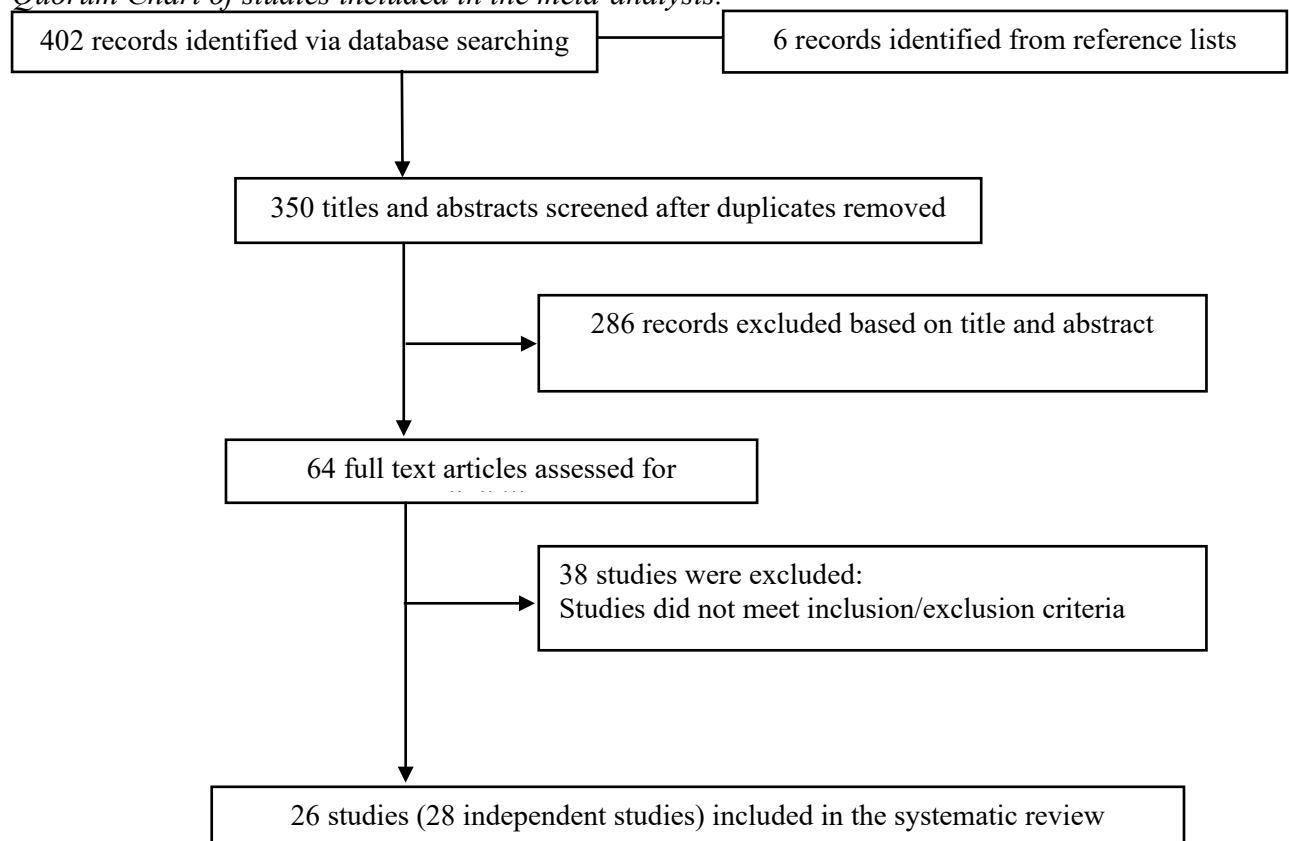
2.2 Method

Literature Search

A search was conducted in January 2019 and updated in November 2019. The search terms (“EI” or “emotional intelligence”) AND (“attachment style” or “attachment orientation” or “attachment”) yielded 402 results from the databases PsychInfo, Medline,

ProQuest Dissertations & Theses, and Web of Science of which titles and abstracts were scanned. The search was limited to English language studies. Additionally, reference searches were conducted to identify potential studies that may have been missed in the initial search. The database search, combined with the reference search, yielded a total of 408 studies that progressed to full-text review to check for specific inclusion and exclusion criteria. The overall literature search resulted in 26 studies containing 28 samples that fit our inclusion criteria (see Figure 1.)

Figure 1
Quorum Chart of studies included in the meta-analysis.



Inclusion and Exclusion Criteria

To ensure only studies that adequately addressed the research question were included, the following inclusion and exclusion criteria were defined for eligibility of studies: (a) an EI measure based on an empirically tested model (psychometrically validated) was used in the study, and (b) an attachment style measure based on an empirically tested model (psychometrically validated) was used in the study; (c) participants were required to be

neuro-typical, non-clinical adults over 18 years old; (d) only English language paper were considered (See Table 2).

Coding

The coding procedure was developed based on Cochrane collaboration standards (Higgins & Green, 2011). Study characteristics comprising author, date, sample size, percentage of female participants, mean age, attachment instrument, attachment style, EI instrument, EI domain, EI type (trait versus ability), Cronbach's alpha, and Pearson correlations were extracted and coded into a worksheet. Quality control was conducted in order to form a quality index. Two of the authors independently double coded all included studies. Any discrepancies were resolved by the third author checking the original manuscript. Coding decisions were shared among all authors. In the case of missing data, the authors of the applicable study were contacted and invited to send through data for inclusion in the analysis.

Meta-Analytic Approach

The meta-analysis was conducted using the 'robumeta' package (Fisher et al., 2015). The Pearson's r correlation coefficients were extracted from studies meeting the eligibility criteria and were used as the measure of effect size in the meta-analysis. I^2 was used to evaluate heterogeneity of correlations across included studies (Higgins & Thompson, 2002). In order to account for the dependence between effect sizes (e.g., multiple effect sizes drawn from the same study), robust variance estimation (RVE) was utilized. RVE adjusts the standard errors in order to account for the clustered nature of the included studies and provide parameter estimates that are robust to the strength of the estimate of the correlation between the effect sizes (Hedges et al., 2010).

Table 2.
Studies Included In The Meta-Analysis.

Author(s) & Year	Sample Demographics				Participant Profile	Attachment Tool	EI Tool	Attachment Style	EI Type	Results	
	N	Mean Age	% Female	Country							
ABILITY EMOTIONAL INTELLIGENCE											
Boncher (2003)	271	21.75	55	USA	Student	RAAS	MSCEIT	Anxiety	Perceiving	-0.03	
								Anxiety	Understanding	0.01	
								Anxiety	Managing	-0.05	
								Anxiety	Facilitating	-0.09	
								Anxiety	Total Ability EI	-0.03	
								Dependent	Perceiving	-0.01	
								Dependent	Understanding	0.14	
								Dependent	Facilitating	0.08	
								Dependent	Perceiving	0.06	
								Dependent	Total Ability EI	0.07	
Cherry et al. (2013)	200	18.89	56	UK	Student	ECR-SF	MSCEIT	Avoidance	Experiential	-0.26	**
								Avoidance	Strategic	-0.27	**
								Avoidance	Total Ability EI	-0.28	**
								Anxiety	Experiential	-0.19	**
								Anxiety	Strategic	-0.08	
								Anxiety	Total Ability EI	-0.16	
								Avoidance	Perceiving	-0.21	**
								Avoidance	Facilitating	-0.23	**
								Avoidance	Understanding	-0.20	**
								Avoidance	Managing	-0.28	**
								Anxiety	Perceiving	-0.12	
								Anxiety	Facilitating	-0.23	**
								Anxiety	Understanding	-0.02	
								Anxiety	Managing	-0.10	
Cherry et al. (2014)	296	19.6	55	UK	Mixed	ECR-SF	MSCEIT	Avoidance	Experiential	-0.24	**
								Avoidance	Strategic	0.20	*
								Avoidance	Total Ability EI	-0.23	**
								Anxiety	Experiential	-0.07	
								Anxiety	Strategic	-0.08	
								Anxiety	Total Ability EI	-0.06	

Author(s) & Year	Sample Demographics				Participant Profile	Attachment Tool	EI Tool	Attachment Style	EI Type	Results	
	N	Mean Age	% Female	Country							
Cherry et al. (2017)	26	26.61	80.8	UK	Community	ECR-SF	MSCEIT	Avoidance	Perceiving	-0.40	*
								Avoidance	Facilitating	-0.36	
								Avoidance	Understanding	-0.30	
								Avoidance	Managing	-0.12	
								Avoidance	Strategic	-0.39	*
								Avoidance	Experiential	-0.37	
								Avoidance	Total Ability EI	-0.43	*
								Anxiety	Perceiving	-0.17	
								Anxiety	Facilitating	-0.38	
								Anxiety	Understanding	-0.03	
								Anxiety	Managing	-0.22	
								Anxiety	Strategic	-0.22	
								Anxiety	Experiential	-0.15	
								Anxiety	Total Ability EI	-0.22	
Dimitrijevic et al. (2018)	251	40.3	53.5	Serbia	Community	ECR-R	MSCEIT	Avoidance	Perceiving	-0.08	
								Avoidance	Facilitating	-0.17	**
								Avoidance	Understanding	-0.21	**
								Avoidance	Managing	-0.30	**
								Avoidance	Total Ability EI	-0.25	**
								Anxiety	Perceiving	-0.33	**
								Anxiety	Facilitating	-0.34	**
								Anxiety	Understanding	-0.31	**
								Anxiety	Managing	-0.47	**
								Anxiety	Total Ability EI	-0.49	**
Forlenza (2006)	120	21.65	74.2	USA	Student	ECR-R	MSCEIT	Anxiety	Understanding	-0.07	
								Anxiety	Managing	-0.25	**
								Avoidance	Understanding	-0.07	
Goldenberg (2004)	223	38.4	69.1	Canada	Community	ECR-SF	EIS	Avoidance	Managing	-0.28	**
								Avoidance	Appraisal	-0.27	***
								Avoidance	Utilisation	-0.21	**
								Avoidance	Mood Regulation	-0.40	***
								Avoidance	Experiencing/Sharing	-0.47	***
								Anxiety	Appraisal	-0.26	***
								Anxiety	Utilisation	-0.11	

Author(s) & Year	Sample Demographics				Participant Profile	Attachment Tool	EI Tool	Attachment Style	EI Type	Results	
	N	Mean Age	% Female	Country							
Kafetsios (2004)	239	38.7	55.6	UK	Mixed	RSQ	MSCEIT	Anxiety	Mood Regulation	-0.48	***
								Anxiety	Experiencing/Sharing	-0.28	***
								Avoidance	Perceiving	-0.11	
								Avoidance	Facilitating	-0.08	
								Avoidance	Understanding	-0.03	
								Avoidance	Managing	-0.10	
								Anxiety	Perceiving	-0.10	
								Anxiety	Facilitating	0.03	
								Anxiety	Understanding	0.09	
								Anxiety	Managing	-0.02	
								Secure	Total Ability EI	0.28	***
								Secure	Perceiving	0.08	
								Secure	Understanding	0.23	**
								Secure	Managing	0.19	*
								Secure	Facilitating	0.20	**
								Dismissing	Total Ability EI	0.06	
								Dismissing	Perceiving	-0.11	
								Dismissing	Understanding	0.28	***
								Dismissing	Managing	0.04	
								Dismissing	Facilitating	-0.05	
								Preoccupied	Total Ability EI	-0.04	
								Preoccupied	Perceiving	-0.16	
								Preoccupied	Understanding	-0.04	
								Preoccupied	Managing	0.04	
								Preoccupied	Facilitating	-0.05	
								Fearful	Total Ability EI	-0.09	
								Fearful	Perceiving	-0.10	
								Fearful	Understanding	-0.01	
								Fearful	Managing	-0.01	
								Fearful	Facilitating	-0.02	
Lanciano (2012)	157	19.6	100	Italy	Student	RSQ	MSCEIT	Avoidance	Perceiving	-0.33	***
								Avoidance	Understanding	-0.35	***
								Avoidance	Managing	-0.33	***
								Avoidance	Facilitating	-0.29	***
								Anxiety	Perceiving	-0.22	***

Author(s) & Year	Sample Demographics				Participant Profile	Attachment Tool	EI Tool	Attachment Style	EI Type	Results									
	N	Mean Age	% Female	Country															
Mohamed (2012)	260	20.38	77.3	UK	Student	RSQ	MSCEIT	Anxiety	Understanding	-0.18	*								
								Anxiety	Managing	-0.27	***								
								Anxiety	Facilitating	-0.20	*								
								Secure	Perceiving	0.04									
								Secure	Understanding	0.05									
								Secure	Managing	0.23	***								
								Secure	Facilitating	0.21	***								
								Secure	Total Ability EI	0.15	*								
								Preoccupied	Perceiving	-0.09									
								Preoccupied	Understanding	0.13	*								
								Preoccupied	Managing	-0.04									
								Preoccupied	Facilitating	0.03									
								Dismissing	Perceiving	0.05									
								Dismissing	Understanding	-0.05									
								Dismissing	Managing	-0.08									
								Dismissing	Facilitating	-0.09									
								Dismissing	Total Ability EI	-0.05									
								Fearful	Perceiving	-0.05									
								Fearful	Understanding	-0.09									
								Fearful	Managing	-0.21	***								
								Fearful	Facilitating	-0.20	**								
Fearful	Total Ability EI	-0.17	**																
Ritter (2013)	92	34.34	72.8	USA	Student	ECR-R	MSCEIT	Anxiety	Perceiving	-0.09									
								Avoidance	Perceiving	-0.19									
								Anxiety	Understanding	-0.16									
								Avoidance	Understanding	-0.23	*								
								Anxiety	Managing	-0.09									
								Avoidance	Managing	-0.08									
								Anxiety	Facilitating	0.01									
								Avoidance	Facilitating	-0.10									
								TRAIT EMOTIONAL INTELLIGENCE											
								Burns (2011)	233	20.66	59.7	USA	Student	ECR-R	TMMS	Anxiety	Attention	0.09	
								Anxiety	Clarity	-0.10									

Author(s) & Year	Sample Demographics				Participant Profile	Attachment Tool	EI Tool	Attachment Style	EI Type	Results	
	N	Mean Age	% Female	Country							
Caldwell (2013)	247	20.54	67	USA	Student	ECR-R	Teique-SF	Anxiety	Mood Repair	-0.09	
								Avoidance	Attention	-0.06	
								Avoidance	Clarity	-0.27	
								Avoidance	Mood Repair	-0.28	
								Anxiety	Total Trait EI	-0.39	**
								Avoidance	Total Trait EI	-0.33	**
Chang (2018)	510	21	76.5	USA	Student	ECR-R	Teique-SF	Anxiety	Total Trait EI	-0.57	**
								Avoidance	Total Trait EI	-0.44	**
Dimitrijevic et al. (2018)	251	40.3	53.5	Serbia	Community	ECR-R	Teique-SF	Avoidance	Wellbeing	-0.41	**
								Avoidance	Self Control	-0.35	**
								Avoidance	Emotionality	-0.49	**
								Avoidance	Sociability	-0.40	**
								Avoidance	Total Trait EI	-0.49	**
								Anxiety	Wellbeing	-0.49	**
								Anxiety	Self Control	-0.52	**
								Anxiety	Emotionality	-0.58	**
								Anxiety	Sociability	-0.51	**
								Anxiety	Total Trait EI	-0.63	**
Donita (2015)	65	41.5	58.5	Romania	Community	AAS-R	EIT	Secure	Total Trait EI	0.28	*
								Anxiety	Total Trait EI	-0.05	*
Dvorak (2014)	173	23	100	USA	Student	ECR-RS	Teique-SF	Avoidance	Total Trait EI	-0.32	***
	41	23	0					Avoidance	Total Trait EI	-0.24	***
	173	23	100					Anxiety	Total Trait EI	-0.28	***
	41	23	0					Anxiety	Total Trait EI	-0.31	***
Fullam (2002)	176	29.5	64.2	USA	Student	AAS-R	TMMS	Secure	Total Trait EI	0.29	**
								Secure	Clarity	0.18	**
								Secure	Attention	0.15	**
								Secure	Mood Repair	0.31	**
								Fearful	Total Trait EI	-0.25	**
								Fearful	Clarity	-0.16	*
								Fearful	Attention	-0.21	**
								Fearful	Mood Repair	-0.15	*
								Preoccupied	Total Trait EI	-0.21	**
								Preoccupied	Clarity	-0.21	**

Author(s) & Year	Sample Demographics				Participant Profile	Attachment Tool	EI Tool	Attachment Style	EI Type	Results	
	N	Mean Age	% Female	Country							
Hamarta et al. (2009)	463	18.23	58.7	Turkey	Student	RSQ	EQ-I	Preoccupied	Attention	0.07	
								Preoccupied	Mood Repair	-0.21	**
								Dismissing	Total Trait EI	-0.30	
								Dismissing	Clarity	-0.10	
								Dismissing	Attention	-0.18	*
								Dismissing	Mood Repair	0.04	
								Secure	Intrapersonal	0.33	**
								Preoccupied	Intrapersonal	-0.04	
								Dismissing	Intrapersonal	-0.01	
								Fearful	Intrapersonal	-0.19	**
								Secure	Interpersonal	0.32	**
								Preoccupied	Interpersonal	0.10	*
								Dismissing	Interpersonal	-0.13	**
								Fearful	Interpersonal	-0.10	*
								Secure	Adaptability	0.20	**
								Preoccupied	Adaptability	-0.14	**
								Dismissing	Adaptability	0.07	
								Fearful	Adaptability	-0.12	**
								Secure	Stress Management	0.21	**
								Preoccupied	Stress Management	-0.08	
Koohsar (2011)	88	37	53	Iran	Community	AAS-R	TMMS	Dismissing	Stress Management	0.02	
								Fearful	Stress Management	-0.21	**
								Secure	General Mood	0.24	**
								Preoccupied	General Mood	-0.03	
								Dismissing	General Mood	0.01	
								Fearful	General Mood	-0.17	**
								Dependent	Attention	-0.24	*
								Dependent	Clarity	-0.19	*
Li (2014)	585	20	46.2	China	Student	ECR	SREIT	Dependent	Mood Repair	-0.14	
								Anxiety	Attention	0.76	**
								Anxiety	Clarity	0.48	**
								Anxiety	Mood Repair	0.45	**
								Avoidance	Total Trait EI	-0.28	**
Marks (2016)	342	33.93	78.1	USA	Student	ECR	AES	Anxiety	Total Trait EI	-0.14	**
								Avoidance	Total Trait EI	-0.40	**

Author(s) & Year	Sample Demographics				Participant Profile	Attachment Tool	EI Tool	Attachment Style	EI Type	Results	
	N	Mean Age	% Female	Country							
Mohamed (2012)	305	22.19	79.1	UK	Student	RSQ	SEIS	Anxiety	Total Trait EI	-0.31	**
								Secure	Total Trait EI	0.32	***
								Preoccupied	Total Trait EI	-0.03	
								Fearful	Total Trait EI	-0.23	***
								Dismissing	Social Skill	-0.17	**
								Fearful	Social Skill	-0.19	***
								Secure	Social Skill	0.33	***
								Preoccupied	Social Skill	0.09	
								Dismissing	Optimism	0.10	
								Fearful	Optimism	-0.27	***
								Secure	Optimism	0.28	***
								Preoccupied	Optimism	-0.17	**
								Dismissing	Appraisal	0.07	
								Fearful	Appraisal	-0.10	
								Secure	Appraisal	0.15	*
								Preoccupied	Appraisal	0.02	
								Dismissing	Using	0.08	
								Fearful	Using	-0.02	
								Secure	Using	0.06	
								Preoccupied	Using	0.02	
Mohamed (2012)	260	20.38	77.3	UK	Student	RSQ	Teique-SF	Secure	Total Trait EI	0.57	***
								Secure	Total Trait EI	0.45	***
								Preoccupied	Total Trait EI	-0.17	**
								Preoccupied	Total Trait EI	-0.07	
								Dismissing	Total Trait EI	-0.08	
								Dismissing	Total Trait EI	-0.02	
								Fearful	Total Trait EI	-0.43	***
								Fearful	Total Trait EI	-0.27	***
								Secure	Wellbeing	0.53	***
								Secure	Self Control	0.37	***
								Secure	Emotionality	0.40	***
								Secure	Sociability	0.36	***
								Secure	Optimism	0.39	***
								Secure	Appraisal	0.28	***
								Secure	Social Skill	0.37	***

Author(s) & Year	Sample Demographics				Participant Profile	Attachment Tool	EI Tool	Attachment Style	EI Type	Results	
	N	Mean Age	% Female	Country							
Mohamed (2012)								Secure	Using	0.21	***
								Preoccupied	Wellbeing	-0.19	**
								Preoccupied	Self Control	-0.27	***
								Preoccupied	Emotionality	0.11	
								Preoccupied	Sociability	-0.16	*
								Preoccupied	Optimism	-0.23	***
								Preoccupied	Appraisal	-0.05	
								Preoccupied	Social Skill	0.08	
								Preoccupied	Using	0.06	
								Dismissing	Wellbeing	-0.09	
								Dismissing	Self Control	0.02	
								Dismissing	Emotionality	-0.25	***
								Dismissing	Sociability	0.08	
								Dismissing	Optimism	0.04	
								Dismissing	Appraisal	-0.01	
								Dismissing	Social Skill	-0.08	
								Dismissing	Using	-0.01	
								Fearful	Wellbeing	-0.43	***
								Fearful	Self Control	-0.37	***
								Fearful	Emotionality	-0.34	***
								Fearful	Sociability	-0.08	
								Fearful	Optimism	-0.33	***
								Fearful	Appraisal	-0.14	*
								Fearful	Social Skill	-0.20	**
								Fearful	Using	-0.02	
Mulder (2016)	325	39	61.8	USA	Community	ECR	Teique-SF	Avoidance	Total Trait EI	-0.60	**
								Anxiety	Total Trait EI	-0.55	**
Neustadt et al. (2011)	211	40.1	48	UK	Community	AAW	Mini-Teique	Secure	Total Trait EI	0.55	**
								Anxiety	Total Trait EI	-0.52	**
Nourmand (2013)	110	29.85	85.5	USA	Community	ECR-R	Wong Law	Avoidance	Total Trait EI	-0.34	**
								Anxiety	Total Trait EI	-0.33	**
Obeid (2019)	789	30.3	45.2	Lebabnon	Community	RSQ	QEISA	Secure	Emotional Awareness	0.19	***
								Preoccupied	Emotional Awareness	-0.01	
								Fearful	Emotional Awareness	-0.05	
								Dismissing	Emotional Awareness	0.02	

Author(s) & Year	Sample Demographics				Participant Profile	Attachment Tool	EI Tool	Attachment Style	EI Type	Results	
	N	Mean Age	% Female	Country							
Stevens (2016)	116	19	83.6	USA	Student	ECR	SREIT	Secure	Emotion Management	0.23	***
								Preoccupied	Emotion Management	-0.09	**
								Fearful	Emotion Management	-0.10	**
								Dismissing	Emotion Management	-0.07	
								Secure	Socio-Emotional Awareness	0.27	***
								Preoccupied	Socio-Emotional Awareness	-0.05	
								Fearful	Socio-Emotional Awareness	-0.13	**
								Dismissing	Socio-Emotional Awareness	-0.03	
								Secure	Relationship Management	0.27	***
								Preoccupied	Relationship Management	-0.08	*
								Fearful	Relationship Management	-0.11	**
								Dismissing	Relationship Management	-0.02	
								Anxiety	Perceiving	0.10	
								Avoidance	Perceiving	-0.25	**
								Anxiety	Managing Own	-0.19	*
								Avoidance	Managing Own	-0.20	*
								Anxiety	Managing Others	0.07	
								Avoidance	Managing Others	-0.21	*
								Anxiety	Using	0.19	*
								Avoidance	Using	-0.16	
								Anxiety	Total Trait EI	0.04	
								Avoidance	Total Trait EI	-0.28	**

Note: RAAS = Revised Adult Attachment Scale (Collins, 1996a); ECR-SF = Experiences in Close Relationships Scale - Short Form (Wei et al., 2007); ECR-R = Experiences in Close Relationships Scale - Revised (Fraley et al., 2000); RSQ = Relationship Scales Questionnaire (Griffith & Bartholemew, 1994); AAS-R = Adult Attachment Scale - Revised (Collins, 1996); ECR-RS = Experiences in Close Relationships - Relationship Structures (Fraley et al., 2011);

AAW = Adult Attachment in the Workplace (Neustadt et al., 2011); SREIT = Self- Report Emotional Intelligence Test (Schutte et al., 1998); MSCEIT = Mayer-Salovey-Caruso Emotional Intelligence Test (Mayer et al., 2002); TEIQue = Trait Emotional Intelligence Questionnaire (Petrides, 2009); QEISA = The Quick Emotional Intelligence Self-Assessment (Mohapel, 2015); Wong Law = Wong Law Emotional Intelligence Test (Wong & Law, 2002); mini-TEIQue = mini Trait Emotional Intelligence Questionnaires (Petrides & Furnham, 2006); TEIQue-SF = Trait Emotional Intelligence Questionnaire- Short Form (Petrides, 2009); SEIS = Schutte Emotional Intelligence Scale (Schutte et al., 1998); AES = Assessing Emotions Scale (Schutte et al., 1998); TMMS = Trait Meta Mood Scale (Mayer et al., 1998); EQ-I = Emotional Quotient Inventory (Bar-On, 1997); EIT = Emotional Intelligence Test (Bar-On, 2006); EIS = Emotional Intelligence Scale (Schutte, 1998).

2.3 Results

Meta-analysis

Relationships between attachment styles and EI

We first examined the relationships between attachment style and EI using separate multi-level random effects meta-analysis with RVE for each attachment style. Given that such analyses are unreliable with small samples ($df < 4$), we did not perform an analysis for a dependent attachment style ($n = 2, k = 8$; Fisher et al., 2015). The results of the analysis are presented in Table 3.

Table 3.
Results of the meta-analysis using the 'robumeta' package in R

Attachment Dimension	<i>n</i>	<i>k</i>	<i>r</i>	<i>SE</i>	<i>95%CI</i>	<i>I²</i>	<i>p</i>
Anxious	22	71	-.20	0.05	[-.32,-.09]	95.02%	.001
Avoidant	18	61	-.30	0.03	[-.36,-.23]	87.51%	<.001
Secure	8	40	.29	0.04	0.19,0.39	86.37%	<.001
Fearful	6	38	-.14	0.02	[-.21,-.08]	68.20%	.002
Preoccupied	6	37	-.06	0.01	[-.02,-.02]	68.02%	.013
Dismissing	6	37	-.02	0.02	[-.08,.04]	73.65%	.369
Dependent	2	8	-.05	0.13	[-1.68,1.58]	78.80%	.768

Note: *n* = cumulative sample size; *k* = number of independent studies; *r* = uncorrected effect size; *SE* = standard error; *95%CI* = 95% confidence interval; *I²* = i-squared; *p* = p-value

Hypotheses 1 and 2: Relationship of EI to attachment styles

EI showed a significant positive association with secure attachment ($r = .29$), of moderate effect size. This supports Hypothesis 1. EI showed significant negative associations with anxiety ($r = -.20$), avoidance ($r = -.30$), fearful ($r = -.14$) and preoccupied attachment styles ($r = -.06$), which ranged in size from very small to moderate. These results support Hypothesis 2.

Hypothesis 3: Type of EI (ability versus trait) as a moderator

To examine how the type of EI measure influenced the relationship with attachment meta-regressions for each attachment style, comparing effect sizes for trait EI with ability EI (controlling for clustering) were performed, see Table 4. The EI/attachment relationship only significantly differed for ability versus trait EI in the case of avoidant attachment. For avoidant attachment, there was a significantly larger negative relationship for trait EI ($r = -.36$, $k = 21$) as compared to ability EI ($r = -.21$, $k = 40$; see Table 5 for subgroups analyses). This supports Hypothesis 3. For anxious attachment, there was no significant difference between trait EI ($r = -.25$, $k = 26$) and ability EI ($r = -.16$, $k = 40$). For secure attachment, there was likewise no difference between trait EI ($r = .31$, $k = 30$) and ability EI ($r = .17$, $k = 10$). There were also no significant differences for preoccupied, fearful, or dismissive attachment styles. Results provided partial support for Hypothesis 3.

Table 4.

Meta-regressions for each attachment style comparing self-report EI and ability EI

Attachment Dimensions	<i>n</i>	<i>k</i>	<i>r</i>	<i>SE</i>	<i>95% CI</i>	<i>p</i>
Anxiety	22	71				
Intercept			-.14	0.03	[-.21, -.08]	.001
Report			-.1	0.09	[-.28, .09]	.28
Avoidance	18	61				
Intercept			-.21	0.03	[-.28, -.14]	0
Report			-.14	0.05	[-.25, -.04]	.01
Secure	8	40				
Intercept			.18	0.03	[-.15, .51]	.09
Report			.13	0.06	[-.25, .51]	.21
Fearful	6	38				
Intercept			-.07	0.04	[-.62, .48]	.34
Report			-.09	0.04	[-.35, .16]	.21
Preoccupied	6	37				
Intercept			-.04	0.02	[-.34, .27]	.37
Report			-.03	0.03	[-.22, .17]	.54
Dismissing	6	37				
Intercept			.02	0.04	[-.46, .51]	.67
Report			-.06	0.05	[-.32, .21]	.38

Note: n = cumulative sample size; k = number of independent studies; r = uncorrected effect size; SE = standard error; 95%CI = 95% confidence interval; p = p-value

Table 5.

Subgroups analysis of the various combinations of attachment style and EI.

	<i>n</i>	<i>k</i>	<i>r</i>	<i>SE</i>	<i>95% CI</i>	<i>I²</i>	<i>p</i>
Ability EI							
Anxiety	9	45	-.16	0.04	[-.25,-.07]	78.91%	.004
Avoidance	8	40	-.21	0.03	[-.28,-.14]	77.46%	<.001
Secure	2	10	.17	0.03	[-.22,.55]	64.85%	.114
Dismissing	2	10	0	0.04	[-.56,.56]	80.69%	.99
Preoccupied	2	9	-.02	0.03	[-.39,.34]	63.80%	.60
Fearful	2	10	-.1	0.05	[-.72,.53]	57.01%	.30
Self-Report EI							
Anxiety	14	26	-.25	0.08	[-.43,-.07]	96.28%	.010
Avoidance	11	21	-.36	0.04	[-.44,-.27]	84.69%	<.001
Secure	7	30	.31	0.05	[.20,.43]	87.11%	.001
Fearful	5	28	-.17	0.03	[-.25,-.09]	75.09%	.004
Preoccupied	5	28	-.06	0.02	[-.12,-.01]	73.55%	.03
Dismissing	5	27	-.03	0.02	[-.10,.03]	71.41%	.21

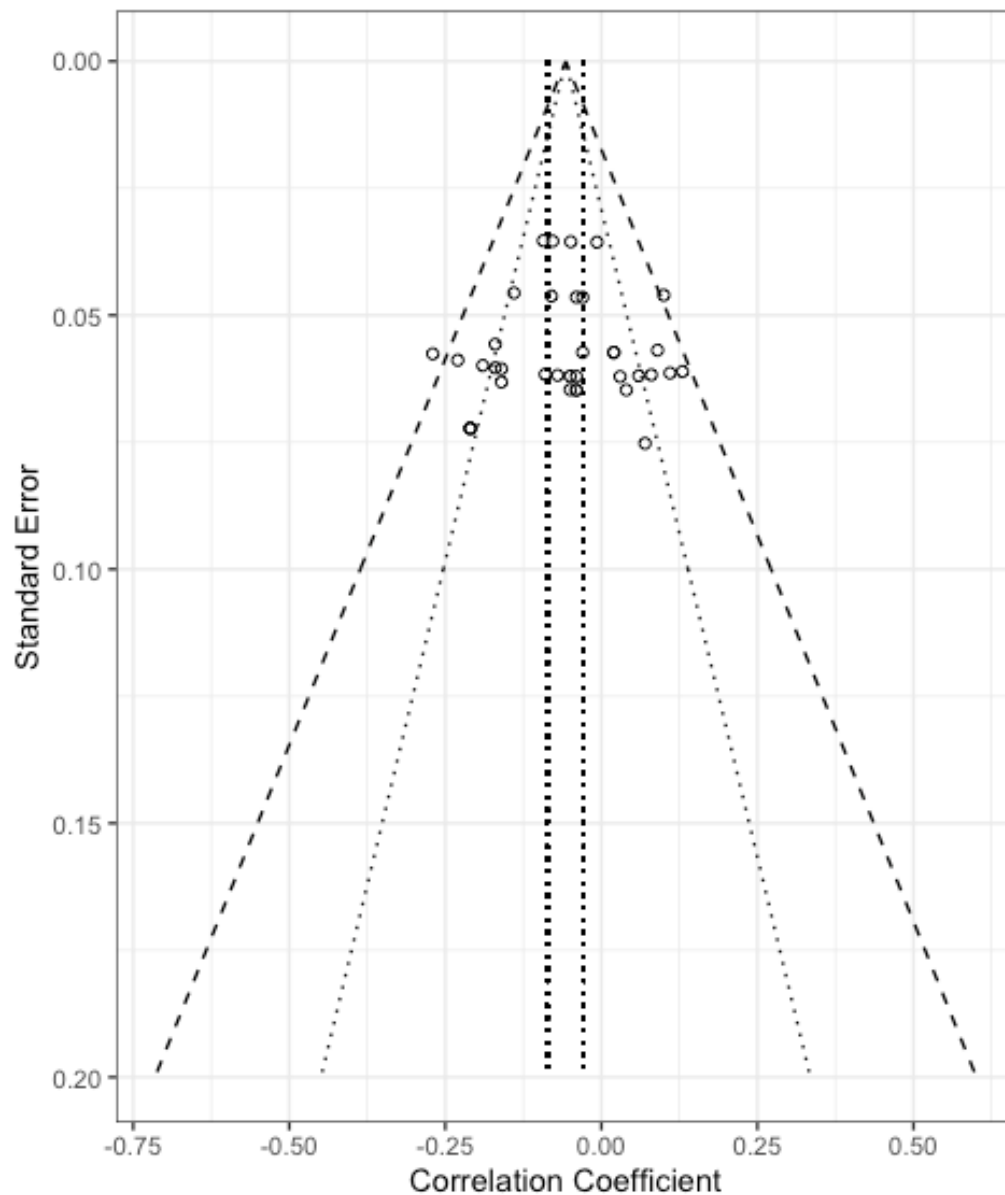
Note: n = cumulative sample size; k = number of independent studies; r = uncorrected effect size; SE = standard error; 95%CI = 95% confidence interval; I² = i-squared; p = p-value

Publication Bias

We assessed the likelihood of publication bias by inspecting the funnel plot (see Figure 2) of the relationship between observed effects and standard error for asymmetry (Schwarzer et al., 2015). Egger's test was also run by including standard error as a predictor in a meta-regression. Based on the funnel plots and a non-significant Egger's test of asymmetry ($b = .55, p = .672$), risk of publication bias was judged to be low.

Figure 2

Funnel plot assessing publication bias.



2.4 Discussion

Results demonstrated that EI was significantly related to both secure and insecure attachment, in line with hypotheses 1 and 2. EI showed a moderate positive association with secure attachment and a negative association with the two major insecure attachment styles (a moderate negative association with avoidant attachment and a small to moderate negative association with anxious attachment). EI also showed small but significant relationships with fearful and preoccupied attachment but was not significantly related to dependent or

dismissing attachment. There was more limited support for hypothesis 3 (a distinction between ability and trait EI). For all results except for dismissive attachment, the magnitude of relationship was stronger for trait EI than ability EI. Associations were significant for five of the six attachment styles for trait EI (all but dismissive attachment) but only for two of the six attachment styles for ability EI (anxious and avoidant attachment). However, effect size was only significantly different for trait versus ability EI for avoidant attachment.

The link between secure attachment and higher EI echoes prior findings suggesting securely attached individuals possess socially desirable, adaptive characteristics. The positive relationship between secure attachment and EI is an intuitive finding considering emotional bonds and relationship competencies, which affect the development of both attachment style (Saarni, 1993) and EI (For a review, see Denham, 1998) form in early childhood. A caregiver's reaction in specific situations, in turn, informs a child's reactions and interpretations of various intra and interpersonal situations (Thompson, 2011). The impact of these situations can have a positive result in which a secure attachment style forms, or a negative result in which an insecure attachment style will form.

Anxious and avoidant attachment styles showed significant negative associations with EI, supporting the second hypothesis. Similarly, fearful attachment was significantly negatively related to EI, and preoccupied attachment had a small but non-significant negative relationship with EI. Longitudinal research has shown affective deficits present in pre-school-aged children carry through into Kindergarten and are thought to be prototypical of deficits in adult relationships (Denham et al., 2002). In adults, Stevens (2014) found individuals with avoidant attachment styles had limited insight into their own emotional competencies. Similarly, Kafetsios (2004) found individuals had differential relationships between the branches of EI and insecure attachment styles, highlighting the different stages of development of emotional competencies. Examining insecure attachment at the branch level

of EI is vital in order to closely examine the types of emotional competency deficits in each of the insecure attachment styles. Unfortunately, the limited studies available for inclusion in this meta-analysis meant this was unable to be quantitatively tested. Furthermore, as previously mentioned, the limited studies available may have impacted the ability of the meta-analysis to tease apart any differences in the relationship between attachment styles and trait or ability EI. Only avoidant attachment differed as a function of EI measure with a significantly larger negative relationship found for trait EI compared to ability EI.

Using secure attachment as the reference category, there was a significantly different relationship between secure attachment and all factors of insecure attachment. Taken together, the overall findings of this meta-analysis highlight the importance of encouraging continued exploration of insecure attachment at the facet level (i.e., fearful, preoccupied, and dismissive) along with the anxious-avoidant model of attachment for a broader view. In order to make more holistic conclusions relating to the emotional competencies present in multiple attachment styles, additional research is needed that investigates the relationships between each of the components of EI and attachment styles.

Closer examination of the literature shows secure attachment is generally positively associated with EI (both trait and ability models) while the other attachment styles are generally negatively associated with EI (both trait and ability models). There are significant negative relations of both avoidance and anxious attachment with global trait and ability EI. Results also indicated significant negative relationships of dismissive, preoccupied, and fearful attachment with EI, although some researchers found the opposite for some ability EI branches (i.e., a significant positive relationship between EI understanding and dismissive attachment; Kafetsios, 2004).

While total EI scores give us an indication of overall EI, it is what is happening at the branch level of EI that may be of most interest. Three of the studies included in this review

reported positive associations with attachment styles other than secure (Boncher, 2003; Fullam, 2002; Kafetsios, 2004). Significant positive associations were found between dependent and dismissing attachment with the emotion understanding branch of ability EI (Boncher, 2003; Kafetsios, 2004), and also between fearful attachment and trait EI (Fullam, 2002). Prior research has found attachment styles differ in the way individuals process incoming emotional information (Fraley et al., 1998; Tucker & Anders, 1999). In fact, it is reasonable to expect attachment styles would perform differently to each other on the four branches of ability EI. For example, fearfully attached individuals tend to more quickly recognize “happiness” and “fearful” facial expressions compared to the other attachment styles (Niedenthal et al., 2002). Highly anxious individuals tend to be acutely aware of changes in the facial expressions of others but tend to make more mistakes when trying to understand the emotion underlying the facial expressions (Fraley et al., 2006). While it was expected we would find evidence to support these prior findings, support was limited. This is potentially due to the limitations in the way ability EI is measured (Fiori et al., 2014) and the limited number of studies included in this review. Fiori et al.,

Future research directions

Given the relationship between attachment and EI is complex, relying on direct measurement of the relationship may be misleading. Furthermore, the development of attachment styles (Kafetsios & Nezlek, 2002) and EI (Kafetsios, 2004) over the lifespan may mean the prevalence of undergraduate students in various study samples that have a narrow age diversity, make it difficult to generalize. It is possible there is ‘causal flow’ in both directions. That is, while we hypothesized that early attachment leads to the development of later EI (through particular views and biases in interpreting one’s own and other’s emotions), it is also possible highly emotionally intelligent people develop better relationships. This could occur through a better understanding of emotional situations and better knowledge of

how to manage such situations, resulting in less conflict, such that they come to view others as safe and loving. In order to make the causal inference that attachment leads to the development of EI, longitudinal research is required, and even then, this might not be sufficient and would require careful interpretation. Importantly, the data presented shows there are currently a limited number of studies investigating the role of attachment at the branch level of ability EI. As such, this meta-analysis's overall results may provide a direction for future research to more closely examine the relationship between attachment and EI. Specifically, the extent to which context is important when examining these relationships. Finally, in order to gain a deeper understanding of the emotional complexities involved in the various attachment styles and dimensions, differentiating between negative and positive affect while using instruments to more finely measure emotion regulation, for example, may be beneficial.

Conclusion

The examination of prior studies found the relationship between attachment and EI to be complex. However, it highlights important differences between EI branches and the relationships to various attachment styles and dimensions. Furthermore, it highlights the importance of both a firm theoretical foundation and a clear understanding of what instruments are measuring with which to base further research. Substantial additional research considering the context of attachment styles and how that context may relate to self-reported and ability EI will help clarify the state of the literature.

The overall findings from this meta-analysis provide an excellent opportunity for future research to explicate the impact of various factors on the relationship between attachment and EI.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

References

*References appearing in the meta-analysis are marked with an **

- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). Patterns of attachment, a psychological study of the Strange Situation. Erlbaum.
- Bartholomew, K. (1990). Avoidance of intimacy: An attachment perspective. *Journal of Social and Personal Relationships*, 7(2), 147-178. doi:10.1177/0265407590072001
- Bartholomew, K., & Shaver, P. R. (1998). Methods of assessing adult attachment. *Attachment Theory and Close Relationships*, 1998, 25-45. The Guilford Press
- Bartholomew, K., Horowitz, L., & Bartholomew, K. (1991). Attachment styles among young adults: a test of a four-category model. *Journal of Personality and Social Psychology*, 61(2), 226-244.
- *Boncher, M. K. (2003). The relationship between attachment styles and emotional intelligence (Doctoral dissertation, ProQuest Information & Learning).
- Bowlby, J. (1970). *Attachment and Loss*. London: The Hogarth Press and the Institute of Psycho-Analysis.
- Bowlby, J. (1982). Attachment and loss: retrospect and prospect. *American Journal of Orthopsychiatry*, 52(4), 664-678. <https://doi.org/10.1111/j.1939-0025.1982.tb01456.x>
- Brackett, M. A., Mayer, J. D., & Warner, R. M. (2004). Emotional intelligence and its relation to everyday behaviour. *Personality and Individual Differences*, 36(6), 1387-1402. [https://doi.org/10.1016/S0191-8869\(03\)00236-8](https://doi.org/10.1016/S0191-8869(03)00236-8)
- Brennan, K., & Shaver, P. (1995). Dimensions of adult attachment, affect regulation, and romantic relationship functioning. *Personality and Social Psychology Bulletin*, 21(3), 267-283. <https://doi.org/10.1177/0146167295213008>
- *Burns, V. L. (2011). *Emotional Intelligence and Coping Styles: Exploring the Relationship Between Attachment and Distress* [Doctoral dissertation, University of Miami].

ProQuest Dissertations & These Global.

- * Caldwell, J. M. (2013). *The attachment-satisfaction relationship on Facebook: Emotional intelligence and conflict*. [Doctoral dissertation, Purdue University]. ProQuest Dissertations & Theses Global.
- *Chang, L. K. (2018). *Adult Attachment in Close Relationships and Trait Emotional Intelligence: The Moderating Role of Mindfulness*. [Doctoral dissertation, University of Northern Colorado]. ProQuest Dissertations & Theses Global.
- *Cherry, M. G., Fletcher, I., & O'Sullivan, H. (2013). Exploring the relationships among attachment, emotional intelligence and communication. *Medical Education*, 47(3), 317-325. <https://doi.org/10.1111/medu.12115>
- *Cherry, M. G., Fletcher, I., & O'Sullivan, H. (2014). Validating relationships among attachment, emotional intelligence and clinical communication. *Medical Education*, 48(10), 988-997. <https://doi.org/10.1111/medu.12526>
- *Cherry, M. G., Fletcher, I., Berridge, D., & O'Sullivan, H. (2018). Do doctors' attachment styles and emotional intelligence influence patients' emotional expressions in primary care consultations? An exploratory study using multilevel analysis. *Patient Education and Counseling*, 101(4), 659-664. <https://doi.org/10.1016/j.pec.2017.10.017>
- Collins, N. L., & Read, S. J. (1990). Adult attachment, working models, and relationship quality in dating couples. *Journal of Personality and Social Psychology*, 58(4), 644-663. <https://doi.org/10.1037/0022-3514.58.4.644>
- Collins, N. L., Ford, M. B., Guichard, A. C., & Allard, L. M. (2006). Working models of attachment and attribution processes in intimate relationships. *Personality and Social Psychology Bulletin*, 32(2), 201-219. <https://doi.org/10.1177/0146167205280907>
- Collins, N., & Feeney, B. (2000). A safe haven: an attachment theory perspective on support seeking and caregiving in intimate relationships. *Journal of Personality and Social*

- Psychology*, 78(6), 1053–1073. <https://doi.org/10.1037/0022-3514.78.6.1053>
- Denham, S. A. (1998). Emotional development in young children. Guilford Press.
- Denham, S. A., Blair, K., Schmidt, M., & DeMulder, E. (2002). Compromised emotional competence: Seeds of violence sown early? *American Journal of Orthopsychiatry*, 72(1), 70-82. <https://doi.org/10.1037/0002-9432.72.1.70>
- *Dimitrijević, A. A., Marjanović, Z. J., & Dimitrijević, A. (2018). A further step towards unpacking the variance in trait and ability emotional intelligence: The specific contribution of attachment quality. *Current Psychology*, 1-14.
<https://doi.org/10.1007/s12144>
- *Dvorak, M. C. (2014). *The moderating effects of emotional intelligence on the relationship between parental attachment and career decision self-efficacy*. [Doctoral dissertation, University of Northern Colorado]. ProQuest Dissertations & These Global.
- Egger, M., Smith, G., Schneider, M., & Minder, C. (1997). Bias in meta-analysis detected by a simple, graphical test. *BMJ*, 315(7109), 629–634.
<https://doi.org/10.1136/bmj.315.7109.62>
- Esbjörn, B., Breinholst, S., Kriss, A., Hald, H., & Steele, H. (2015). Can attachment and peer relation constructs predict anxiety in ethnic minority youths? A longitudinal exploratory study. *Attachment & Human Development*, 17(6), 599–614.
<https://doi.org/10.1080/14616734.2015.1093699>
- Fiori, M., Antonietti, J. P., Mikolajczak, M., Luminet, O., Hansenne, M., & Rossier, J. (2014). What is the ability emotional intelligence test (MSCEIT) good for? An evaluation using item response theory. *PloS One*, 9(6), e98827.
<https://doi.org/10.1371/journal.pone.0098827>
- Fisher, Z., & Tipton, E. (2015). Robumeta: An R-package for robust variance estimation in meta-analysis. *arXiv preprint arXiv:1503.02220*. (Preprint)

- *Forlenza, N. (2006). *The cognitive underpinnings of attachment: implications for strategic emotion abilities* [Doctoral dissertation, St. John's University]. ProQuest Dissertations & Theses Global.
- Fraley, R. (2002). Attachment stability from infancy to adulthood: Meta-analysis and dynamic modeling of developmental mechanisms. *Personality and Social Psychology Review*, 6(2), 123–151. https://doi.org/10.1207/S15327957PSPR0602_03
- Fraley, R. C., Davis, K. E., & Shaver, P. R. (1998). *Dismissing-avoidance and the defensive organization of emotion, cognition, and behavior*. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (p. 249–279). The Guilford Press.
- Fraley, R. C., & Shaver, P. R. (2000). Adult romantic attachment: Theoretical developments, emerging controversies, and unanswered questions. *Review of General Psychology*, 4(2), 132–154. <https://doi.org/10.1037/1089-2680.4.2.132>
- Fraley, R. C., & Shaver, P. R. (2021). Attachment theory and its place in contemporary personality theory and research. In O. P. John & R. W. Robins (Eds.), *Handbook of personality: Theory and research* (pp. 642–666). The Guilford Press.
- Fraley, R., Niedenthal, P. M., Marks, M., Brumbaugh, C., & Vicary, A. (2006). Adult attachment and the perception of emotional expressions: Probing the hyperactivating strategies underlying anxious attachment. *Journal of Personality*, 74(4), 1163–1190. <https://doi.org/10.1111/j.1467-6494.2006.00406.x>
- *Fullam, A. (2002). *Adult attachment, emotional intelligence, health, and immunological responsiveness to stress*. [Doctoral dissertation, Rutgers the State University of New Jersey]. ProQuest Dissertations & These Global.
- *Goldenberg, I. (2004). *The role of emotional intelligence, attachment, and coping in mediating the effects of childhood abuse* [Doctoral dissertation, Carleton University]. ProQuest Dissertations & Theses Global.

- Guerrero, L. K. (1996). Attachment-style differences in intimacy and involvement: A test of the four-category model. *Communications Monographs*, 63(4), 269-292.
<https://doi.org/10.1080/03637759609376395>
- *Hamarta, E., Deniz, M., & Saltali, N. (2009). Attachment Styles as a Predictor of Emotional Intelligence. *Educational Sciences: Theory and Practice*, 9(1), 213-229.
<https://doi.org/10.1016/j.sbspro.2013.07.018>
- Hazan, C., & Shaver, P. (1987). Romantic Love Conceptualized as an Attachment Process. *Journal of Personality and Social Psychology*, 52(3), 511–524.
<https://doi.org/10.1037/0022-3514.52.3.511>
- Hedges, L. V., Tipton, E., & Johnson, M. C. (2010). Robust variance estimation in meta-regression with dependent effect size estimates. *Research Synthesis Methods*, 1(1), 39-65. <https://doi.org/10.1002/jrsm.5>
- Higgins, J. P., & Green, S. (Eds.). (2011). *Cochrane handbook for systematic reviews of interventions* (Vol. 4). Wiley.
- Higgins, J. P., & Thompson, S. G. (2002). Quantifying heterogeneity in a meta-analysis. *Statistics in medicine*, 21(11), 1539-1558. <https://doi.org/10.1002/sim.1186>
- Joseph, D. L., & Newman, D. A. (2010). Emotional intelligence: An integrative meta-analysis and cascading model. *Journal of Applied Psychology*, 95, 54-78.
<https://doi.org/10.1037a0017286>
- *Kafetsios, K. (2004). Attachment and emotional intelligence abilities across the life course. *Personality and individual Differences*, 37(1), 129-145.
<https://doi.org/10.1016/ja.paid.2003.08.006>
- Kafetsios, K., & Nezlek, J. B. (2002). Attachment styles in everyday social interaction. *European Journal of Social Psychology*, 32(5), 719-735.
<https://doi.org/10.1002/ejsp.130>

- *Kim, Y. (2005). Emotional and cognitive consequences of adult attachment: The mediating effect of the self. *Personality and Individual Differences*, 39(5), 913-923.
<https://doi.org/10.1016/j.paid.2005.03.010>
- Kobak, R., & Sceery, A. (1988). Attachment in late adolescence: working models, affect regulation, and representations of self and others. *Child Development*, 59(1), 135–146.
<https://doi.org/10.2307/1130395>
- *Lanciano, T., Curci, A., Kafetsios, K., Elia, L., & Zammuner, V. L. (2012). Attachment and dysfunctional rumination: The mediating role of Emotional Intelligence abilities. *Personality and Individual Differences*, 53(6), 753-758.
<https://doi.org/10.1016/j.paid.2012.05.027>
- *Li, X., & Zheng, X. (2014). Adult attachment orientations and subjective wellbeing: Emotional intelligence and self-esteem as moderators. *Social Behavior and Personality: An International Journal*, 42(8), 1257-1265.
<https://doi.org/10.2224/sbp.2014.42.8.1257>
- Lopes, P., Brackett, M., Nezlek, J., Schütz, A., Sellin, I., & Salovey, P. (2004). Emotional Intelligence and Social Interaction. *Personality and Social Psychology Bulletin*, 30(8), 1018–1034. <https://doi.org/10.1177/0146167204264762>
- MacCann, C., Jiang, Y., Brown, L. E. R., Double, K. S., Bucich, M., & Minbashian, A. (2019). Emotional intelligence predicts academic performance: A meta-analysis. *Psychological Bulletin*, 146, 150-186. <https://doi.org/10.1037/bul0000219>
- Main, M., Goldwyn, R., & Hesse, E. (2003). Adult attachment scoring and classification system. Unpublished manuscript, University of California, Berkeley.
- Malouff, J., Schutte, N., & Thorsteinsson, E. (2014). Trait emotional intelligence and romantic relationship satisfaction: A meta-analysis. *The American Journal of Family Therapy*, 42(1), 53–66. <https://doi.org/10.1080/01926187.2012.748549>

- *Marks, A., Horrocks, K., & Schutte, N. (2016). Emotional intelligence mediates the relationship between insecure attachment and subjective health outcomes. *Personality and Individual Differences*, 98, 188–192. <https://doi.org/10.1016/j.paid.2016.03.038>
- Martins, A., Ramalho, N., & Morin, E. (2010). A comprehensive meta-analysis of the relationship between emotional intelligence and health. *Personality and Individual Differences*, 49, 554-564. <https://doi.org/10.1016/j.paid.2010.05.029>
- Mayer, J. D., Caruso, D. R., & Salovey, P. (2016). The ability model of emotional intelligence: Principles and updates. *Emotion Review*, 8, 290–300. <https://doi.org/10.1177/1754073916639667>
- Mayer, J., Salovey, P., & Caruso, D. (2004). Emotional intelligence: Theory, findings, and implications. *Psychological Inquiry*, 15, 197–215. https://doi.org/10.1207/s15327965pli1503_02
- Meyer, B., Pilkonis, P. A., & Beevers, C. G. (2004). What's in a (neutral) face? Personality disorders, attachment styles, and the appraisal of ambiguous social cues. *Journal of Personality Disorders*, 18, 320-336. <https://doi.org/10.1521/pedi.18.4.320.40344>
- Miao, C., Humphrey, R., & Qian, S. (2017). A meta-analysis of emotional intelligence and work attitudes. *Journal of Occupational and Organizational Psychology*, 90(2), 177–202. <https://doi.org/10.1111/joop.12167>
- Mikulincer, M., Dolev, T., & Shaver, P. R. (2004). Attachment-Related Strategies During Thought Suppression: Ironic Rebounds and Vulnerable Self-Representations. *Journal of Personality and Social Psychology*, 87(6), 940–956. <https://doi.org/10.1037/0022-3514.87.6.940>
- Mikulincer, M., & Shaver, P. R. (2007). *Attachment in adulthood: Structure, dynamics, and change*. The Guilford Press.
- *Mohamed, N. (2012). *Adjustment to University: Predictors, Outcomes and*

- Trajectories* [Doctoral dissertation, University of Central Lancashire]. Proquest Dissertation & Theses Global.
- *Mulder, J. W. (2016) *An Examination of the Associations Between Attachment Style, Trait Emotional Intelligence, and Person – Environment Fit* [Doctoral dissertation, Grand Canyon University Arizona]. Proquest Dissertations & Theses Global.
- *Neustadt, E. A., Chamorro-Premuzic, T., & Furnham, A. (2011). Attachment at work and performance. *Attachment & Human Development*, 13(5), 471-488.
<https://doi.org/10.1080/14616734.2011.602254>
- Niedenthal, P. M., Brauer, M., Robin, L., & Innes-Ker, Å. H. (2002). Adult attachment and the perception of facial expression of emotion. *Journal of Personality and Social Psychology*, 82(3), 419-433. <https://doi.org/10.1037/0022-3514.82.3.419>
- *Nourmand, R. S. (2013). *Emotional intelligence, attachment style, and ambivalent sexism*. [Doctoral dissertation, Alliant International University]. ProQuest Dissertations & Theses Global.
- Olderbak, S., Semmler, M., & Doebler, P. (2019). Four-branch model of ability emotional intelligence with fluid and crystallized intelligence: A meta-analysis of relations. *Emotion Review*, 11, 166-183. <https://doi.org/10.1177/1754073918776776>
- Park, L. E., Crocker, J., & Mickelson, K. D. (2004). Attachment styles and contingencies of self-worth. *Personality and Social Psychology Bulletin*, 30(10), 1243-1254.
<https://doi.org/10.1177/0146167204264000>
- Petrides, K. V. (2010). Trait emotional intelligence theory. *Industrial and Organizational Psychology*, 3(2), 136–139. <https://doi.org/10.1111/j.1754-9434.2010.01213.x>
- Petrides, K. V., & Furnham, A. (2001). Trait emotional intelligence: psychometric investigation with reference to established trait taxonomies. *European Journal of Personality*, 15(6), 425–448. <https://doi.org/10.1002/per.416>

- Petrides, K. V., Pita, R., & Kokkinaki, F. (2007). The location of trait emotional intelligence in personality factor space. *British Journal of Psychology*, 98(2), 273-289.
<https://doi.org/10.1348/000712606X120618>
- * Ritter, R. (2013). *Attachment orientations, emotional intelligence, and satisfaction in romantic relationships* [Doctoral dissertation, Fairleigh Dickinson University].
ProQuest Dissertations & Theses Global.
- Saarni, C. (1993). *Socialization of emotion*. In M. Lewis & J. M. Haviland (Eds.), *Handbook of emotions* (p. 435–446). Guildford.
- Sánchez-Álvarez, N., Extremera, N., & Fernández-Berrocal, P. (2016). The relation between emotional intelligence and subjective wellbeing: A meta-analytic investigation. *The Journal of Positive Psychology*, 11(3), 276–285.
<https://doi.org/10.1080/17439760.2015.1058968>
- Santascioy, N., Burke, S., & Dovidio, J. (2018). Avoidant attachment style predicts less positive evaluations of warm (but not cold) social groups. *Group Processes & Intergroup Relations*, 21(1), 19–36. <https://doi.org/10.1177/1368430216663016>
- Schröder-Abé, M., & Schütz, A. (2011). Walking in each other's shoes: Perspective taking mediates effects of emotional intelligence on relationship quality. *European Journal of Personality*, 25(2), 155-169. <http://dx.doi.org/10.1002/per.818>
- Schutte, N. S., Malouff, J. M., & Thorsteinsson, E. B. (2013). Increasing emotional intelligence through training: Current status and future directions. *International Journal of Emotional Education*, 5(1), 56-72.
- Schutte, N. S., Malouff, J. M., Bobik, C., Coston, T. D., Greeson, C., Jedlicka, C., ... & Wendorf, G. (2001). Emotional intelligence and interpersonal relations. *The Journal of Social Psychology*, 141(4), 523-536. <https://doi.org/10.1080/00224540109600569>
- Shaver, P. R., & Brennan, K. A. (1992). Attachment styles and the "Big Five" personality

- traits: Their connections with each other and with romantic relationship outcomes. *Personality and Social Psychology Bulletin*, 18(5), 536-545.
<https://doi.org/10.1177/0146167292185003>
- Stevens, F. L. (2014). Affect Regulation Styles in Avoidant and Anxious Attachment. *Individual Differences Research*, 12(3).
- *Stevens, F. L. (2017). Authenticity: a mediator in the relationship between attachment style and affective functioning. *Counselling Psychology Quarterly*, 30(4), 392-414.
<https://doi.org/10.1080/09515070.2016.1176010>
- Stolarski, M., Postek, S., & Smieja, M. (2011). Emotional intelligence and conflict resolution strategies in romantic heterosexual couples. *Studia Psychologiczne*, 49(5), 65–76.
<https://doi.org/10.2478/v10167-010-0041-9>
- Thompson, R. A. (2011). Emotion and emotion regulation: Two sides of the developing coin. *Emotion Review*, 3(1), 53-61. <https://doi.org/10.1177/1754073910380969>
- Tucker, J. S., & Anders, S. L. (1999). Attachment style, interpersonal perception accuracy, and relationship satisfaction in dating couples. *Personality and Social Psychology Bulletin*, 25(4), 403-412. <https://doi.org/10.1177/0146167299025004001>
- van der Linden, D., Pekaar, K., Bakker, A., Schermer, J., Vernon, P., Dunkel, C., & Petrides, K. (2017). Overlap between the general factor of personality and emotional intelligence: a meta-analysis. *Psychological Bulletin*, 143, 36-52.
<https://doi.org/10.1037/bul0000078>
- Viechtbauer, W. (2010). Conducting meta-analyses in R with the metafor package. *Journal of Statistical Software*, 36(3), 1–48. <https://doi.org/10.18637/jss.v036.i03>
- Wearden, A., Peters, I., Berry, K., Barrowclough, C., & Liversidge, T. (2008). Adult attachment, parenting experiences, and core beliefs about self and others. *Personality and Individual Differences*, 44(5), 1246-1257.

<https://doi.org/10.1016/j.paid.2007.11.019>

Chapter 3: People with higher relationship satisfaction use more humor, valuing, and receptive listening to regulate their partners' emotions

Current Psychology
<https://doi.org/10.1007/s12144-023-04432-4>



People with higher relationship satisfaction use more humor, valuing, and receptive listening to regulate their partners' emotions

Sarah A. Walker¹  · Rebecca T. Pinkus¹  · Sally Olderbak²  · Carolyn MacCann¹ 

Accepted: 19 February 2023
© The Author(s) 2023

Abstract

The emotional experiences you have with a romantic partner shape how satisfied you are in your relationship. Engaging in attempts to make a romantic partner feel better is linked with better relationship outcomes. However, it is not yet clear which specific processes people use to regulate their partners' emotions, nor which processes are most strongly linked with relationship satisfaction. In the current study of 277 individuals (55% female), we tested the extent to which eight extrinsic emotion regulation processes (expressive suppression, downward social comparison, humor, distraction, direct action, reappraisal, receptive listening, and valuing) predict relationship satisfaction. Six of the eight processes showed significant positive correlations with relationship satisfaction, with the strongest associations for valuing ($r = .43$), humor ($r = .33$), and receptive listening ($r = .27$). Relative weights were significant only for valuing, humor, and receptive listening, suggesting that these are the most important predictors of relationship satisfaction. Results are discussed in terms of the distinction between intrinsic and extrinsic regulation processes and the potential importance of motives for regulation.

Keywords Emotion regulation · Relationship satisfaction · Humor · Valuing

Abstract

The emotional experiences you have with a romantic partner shape how satisfied you are in your relationship. Engaging in attempts to make a romantic partner feel better is linked with better relationship outcomes. However, it is not yet clear which specific processes people use to regulate their partners' emotions, nor which processes are most strongly linked with relationship satisfaction. In the current study of 277 individuals (55% female), we tested the extent to which eight extrinsic emotion regulation processes (expressive suppression, downward social comparison, humor, distraction, direct action, reappraisal, receptive listening, and valuing) predict relationship satisfaction. Six of the eight processes showed significant positive correlations with relationship satisfaction, with the strongest associations for valuing ($r = .44$), humor ($r = .33$), and receptive listening ($r = .27$). Relative weights were significant only for valuing, humor, and receptive listening, suggesting that these are the most important predictors of relationship satisfaction. Results are discussed in terms of the distinction between intrinsic and extrinsic regulation processes and the potential importance of motives for regulation.

Keywords: emotion regulation, relationship satisfaction, humor, valuing

**People with higher relationship satisfaction use more valuing, humor, and receptive
listening to regulate their partners' emotions**

Emotion regulation refers to the processes people use to influence the intensity, duration, and expression of emotions (Gross, 2002). While emotion regulation is typically studied as an intrinsic process (how someone regulates their own emotions; Gross, 1998), there is substantial evidence that people also regulate the emotions of others (Niven, Macdonald et al., 2012; Nozaki & Mikolajczak, 2020; Williams et al., 2018). For example, you may try to make your romantic partner feel better if you noticed they have had a stressful day. This attempt to modulate the emotional experience of another person is understood as 'extrinsic emotion regulation' (Nozaki & Mikolajczak). Recent research shows that attempting to make your partner feel better (regulating their emotions) is linked to higher relationship satisfaction (e.g., Kinkead et al., 2021). However, it is not yet clear whether some extrinsic emotion regulation strategies may be more beneficial than others. For example, using positive reappraisal (encouraging your partner to re-interpret events more positively) may be a more effective approach than using expressive suppression (encouraging your partner to hide their emotions). As yet, there is no research comparing multiple extrinsic regulation processes in romantic relationships. We address this gap by examining the extent to which eight discrete extrinsic emotion regulation processes predict romantic relationship satisfaction.

Extrinsic Emotion Regulation

Emotion regulation is a core feature of our emotional lives and is important for personal wellbeing (Gross & John, 2003), workplace wellbeing (Fan & Wang, 2022; Greenier et al., 2021) and relationship quality (Niven et al., 2015; Williams et al., 2018). Research distinguishes between intrinsic (regulating one's own emotions), extrinsic (regulating the emotions of another person), and interpersonal emotion regulation (regulating

one's own emotions through interpersonal social interactions) (Nozaki & Mikolajczak, 2020; Zaki & Williams, 2013). Both intrinsic and extrinsic emotion regulation can be represented by the Extended Process Model of Emotion Regulation (Gross, 2015) which is a theoretical framework used to understand how people regulate their own emotions, and the emotions of others. The model consists of three stages: (a) Identification. An individual must first recognize the need for regulation by inferring the emotional state of the target person, assigning a value to the emotional state, and then forming a regulation goal, (b) Selection. An individual perceives, evaluates, and chooses the most effective regulation processes, and (c) Implementation. An individual operationalizes the selected processes and evaluates the feasibility and outcomes of the specific tactic/s chosen.

There is a large extant literature exploring the range of processes people use to influence their own emotional experiences (Webb et al., 2012) with some strategies found to be more effective than others. For example, cognitive reappraisal (reframing a situation in a more positive light) has been found to be generally more effective than expressive suppression (not physically showing one's emotions). However, less is understood about the processes people use to influence the emotional trajectory of others – known as *extrinsic emotion regulation*. Extrinsic emotion regulation is typically measured in terms of two broad goals: *affect improving* (i.e., enhancing someone else's emotions) and *affect worsening* (i.e., diminishing someone else's emotions; Niven et al., 2011). The primary conceptual model of extrinsic regulation describes multiple different processes that could be used to improve or worsen affect (Niven et al., 2009). For example, I could use *humor* to make a friend laugh, or use *valuing* to make an employee feel proud by telling them how important and valued their work is. Importantly, according to Nozaki and Mikolajczak (2020), extrinsic emotion regulation has three core features: (1) the regulator must have the goal of influencing the emotional trajectory of another person, (2) the extrinsic regulation goal can either increase or

decrease negative or positive emotions, and (3) extrinsic regulation is distinguished from other related constructs such as empathy and emotional contagion.

The expression of negative emotions can influence an emotional and behavioural responses in others (Kiltner & Haidt, 1999; Kiltner & Kring, 1998) which may motivate a sympathetic reaction toward the person expressing the negative emotion (Lench et al., 2016). Attempting to regulate the emotions of another person can result in the development of stronger relationships, and deeper trust in those relationships (Keltner & Haidt, 2001; Keltner & Kring, 1998; Niven et al., 2012). Evidence suggests that by regulating the emotions of others, an individual may experience an increase in their own positive affect, thereby benefiting from the act of helping others regulate their emotional experience (Austin et al., 2018; Austin & Vahle, 2016; Niven et al., 2012).

Although there is burgeoning interest in examining the broad categories of affect improving, and affect worsening, little is yet understood about the relative benefits of different, discrete regulation processes that people use to modulate the emotional experiences of others (MacCann et al., 2023) and the impact on regulation on the regulators perception of relationship satisfaction. To address this gap, the current study examines the eight regulation strategies of the Regulation of Others' Emotions Scales (ROES; MacCann et al., 2021). Each process can be classified in terms of the degree of engagement with the target person (low, moderate, or high) and the focus of process (disengagement-focused, diversion-focused, change-focused, and relationship-focused; Table 6). Intrinsic emotion regulation research clearly shows that some processes are more effective than others (Mazzuca et al., 2019). We will explore if extrinsic regulation processes similarly have different effects on a key outcome among romantic partners - relationship satisfaction.

Table 6.

Description of extrinsic emotion regulation processes included in the Regulation of Others' Emotions Scales (ROES; MacCann et al., 2022)

Process	Description	Focus	Emotional Engagement
Expressive suppression	The regulator encourages the target to avoid verbally or physically expressing their emotions.	Disengagement	Low
Downward comparison	The regulator compares the target's situation to someone in a worse situation.	Disengagement	Low
Humor	The regulator tries to increase positive affect by making the target laugh (e.g., telling a joke or sharing a funny story).	Diversion	Moderate
Distraction	The regulator attempts to reduce negative affect by refocusing the target's attention away from the emotional event.	Diversion	Moderate
Direct action	The regulator directly changes the target's situation to reduce negative affect	Change	Moderate
Positive reappraisal	This occurs when the regulator encourages the target to shift the way they think about a situation in order to increase positive affect.	Change	High
Receptive listening	The regulator encourages the target to express their emotions to help reduce negative affect.	Relationship	High
Valuing	The regulator expresses how much the target is valued and special to increase positive affect.	Relationship	High

Note: ER = extrinsic emotion regulation

Relationship Satisfaction

Romantic relationships represent a core feature of people's lives. Characteristics such as commitment, love, trust, communication, security, and emotional support help people evaluate how satisfied they feel in their relationship (Fletcher et al., 2015; Hendrick et al., 1998). Romantic relationships inevitably involve the ebb and flow of negative and positive events that influence both partners' wellbeing (Antonucci et al., 2001). For example, when a person's needs and expectations are not met in the relationship, this can lead to increased negative affect and adverse mental and physical health outcomes for both partners (Bravo et al., 2017; McNulty et al., 2021; Whisman, 2007). Furthermore, the longer adverse outcomes persist, the more likely relationship satisfaction will decline, potentially leading to a breakdown of the relationship (Bravo, 2017; McNulty et al., 2021). In contrast, when a person's needs and expectations are met in the relationship, and arising conflict is met with effective communication and emotional support, this can lead to increased positive affect, wellbeing, self-esteem, life satisfaction, and relationship satisfaction (Antonucci et al., 2001; Pateraki & Roussi, 2013; Voss et al., 1999). Therefore, it is essential to examine and understand the factors that improve and maintain relationship satisfaction as well as identify factors that undermine relationship satisfaction.

Extrinsic Emotion Regulation and Relationship Satisfaction

Most research on emotion regulation in romantic relationships examines how people regulate their own emotions (rather than their partner's emotions). However, one partner's efforts to regulate their own emotions (intrinsic regulation) can also positively or negatively impact their partner's emotions (extrinsic regulation; Proulx et al., 2007). We know that intrinsic emotion regulation affects romantic relationship functioning and satisfaction (Ben-Naim et al., 2013; Gross & John, 2003; Vater & Schroder-Abe, 2015; Walker et al., 2023). We also know that some processes are better than others. For example, intrinsic expressive suppression (suppressing one's own emotions) leads to lower relationship satisfaction over

time (Gross & John, 2003; Impett et al., 2012) whereas intrinsic cognitive reappraisal processes relate to higher relationship quality (Ruso et al., 2019). Similarly, downward comparison in romantic relationships tends to result in lower positive feelings (Pinkus et al., 2008). It is feasible that *extrinsic* expressive suppression, reappraisal, and downward social comparison might have similar effects on relationship satisfaction.

The two relationship-focused processes (valuing and receptive listening) centre on the relationship between the regulator and the target and involve high levels of engagement with the other person. Intuitively, relationship-focused processes should relate to people's satisfaction in their relationships. There is evidence that empathic listening improves the other person's emotional response to negative events in terms of both subjective feelings and physiological response (Seehausen et al., 2012). Moreover, using receptive listening relates to increased closeness and reduced loneliness (Nils & Rime, 2012; Pauw et al. 2018).

There is also evidence that humor may relate to relationship satisfaction. Humor tends to improve positive emotions (Fredrickson & Levenson, 1998) and distract from negative emotions (Strick et al., 2009). In fact, although humor involves less engagement with the target, using humor is positively associated with relationship quality (Cann et al., 2009; Carstensen et al., 1995; Kurtz & Algoe, 2015). Although both direct and indirect support have been shown to positively relate to relationship satisfaction, direct action tends to be less effective than indirect action and may also increase negative affect (Girme et al., 2018).

Given the findings above, we hypothesize that humor, direct action, distraction, reappraisal, receptive listening, and valuing will relate to higher relationship satisfaction, whereas downward comparison, and expressive suppression will relate to lower satisfaction. Because the eight extrinsic regulation strategies are highly inter-correlated, we will examine relative weights analysis (Tonidandel et al., 2009) as well as multiple regression in evaluating the relative importance of each of the eight processes.

3.2 Method

Participants. Participants ($N = 277$, 55% female, mean age = 36.8 years, $SD = 12.21$ years) were recruited through Prolific in May 2020, as part of a larger project examining wellbeing during the coronavirus pandemic. Most participants ($n = 267$, 96%) were in a romantic relationship with an opposite-sex partner. An additional 57 participants completed the protocol but were excluded based on pre-registered exclusion criteria (i.e., taking less than a third of the median response time, failing a data check item, stopping halfway through, showing invariant responding across 2 or more screens, or answering that they spoke English “not well” or “not at all; see https://aspredicted.org/blind.php?x=HSL_CMW)

Materials

Regulation of Others’ Emotions Scale¹ (ROES; MacCann et al., 2021). Partner frame-of-reference instructions were used, with reference to the coronavirus pandemic, which put stress on relationships (i.e., “Since the coronavirus outbreak, I do the following things to MAKE MY ROMANTIC PARTNER FEEL BETTER”). Eight subscales were assessed with four items each (expressive suppression, downward social comparison, distraction, humor, direct action, reappraisal, receptive listening, and valuing). Sample items include “I ask them to put a brave face on” (expressive suppression) or “I do what I can to find an answer for them” (direct action). Participants rated each item on a 6-point scale, from 1 (*Strongly Disagree*) to 6 (*Strongly Agree*).

Relationship Satisfaction (Hendrick, 1988). Instructions requested participants rate each of the five items on a 7-point Likert scale, from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). Items included “How well does your partner meet your needs?” and “How often do you wish you hadn’t gotten into this relationship?” (reverse scored).

Procedure

¹ While the preregistration specified 10 extrinsic regulation processes, the latest version of the ROES instrument includes only 8 processes. We therefore report these 8 processes (rather than the 10 that were pre-registered).

Participants were recruited from Prolific by seeing a study ad and provided written consent after viewing a participant information statement. All participants completed demographic questions and then several rating scales including the ROES and the relationship satisfaction scale (see preregistration for full list of measures not included in the current study). This study was approved by the Human Ethics Committee at the first author's institution.

Analysis

Three measures of the association of the eight regulation processes with relationship satisfaction were conducted: 1) Pearson's correlations (r); 2) multiple regressions where the 8 processes predicted relationship satisfaction, and 3) relative weights analysis (RWA) to test the relative importance of each of the eight predictors. An RWA partitions the R^2 into pseudo-orthogonal parts with each part representative of the relative contribution of each predictor variable (Tonidandel et al., 2009). While regression analyses can help identify the relationship between variables, relatively weights analysis provides a more detailed understanding of the relative importance of each variable in the model – particularly with multiple predictor variables, as it helps to identify which variables are most important in predicting the outcome. We interpret effect size of correlations and regression coefficients with respect to Cohen's r , with .10, .30, and .50 considered as “small”, “medium” and “large” respectively (Cohen, 1988). Statistics were calculated using R 4.1.0 (R Core Team, 2021), *effsize* (v0.8.1; Torchiano, 2020), and *RWA* (v0.0.3; Chan, 2021). The full reproducible code is available in supplementary materials.

3.3 Results

Internal Consistency and Descriptive Statistics

Table 7 presents the internal consistency indices, and descriptive statistics for the ROES subscales and relationship satisfaction. Mean scores were lowest for the disengagement-focused processes and highest for the relationship-focused processes. Internal

consistency reliability for the ROES subscale scores were good. Confirmatory factor analyses were conducted to test model fit for the Regulation of Others' Scale, and relationship satisfaction. There was good model fit for the eight-factor structure of the Regulation of Others' Scale ($\chi^2 = 714.50$, $df = 436$, CFI = 0.994, SRMR = .060, RMSEA = .048, 90% CI = .042 - .054), and good fit for Relationship Satisfaction ($\chi^2 = 27.08$, $df = 14$, CFI = 0.999, SRMR = .03, RMSEA = .058, 90% CI = .23 - .91).

Correlations

Relationship satisfaction was not significantly correlated with the two disengagement-focused strategies but showed significant positive correlations for the other six regulation strategies. The effect size was moderate-to-large for valuing, moderate for receptive listening and humor, and small-to-moderate for the remaining processes (distraction, direct action and reappraisal).

Hypothesis Testing

Regression coefficients were significant for valuing and humor only, with a moderate-to-large effect for valuing and a small-to-moderate effect for humor. The regression explained 23% of the variance in relationship satisfaction. Relative weights analysis (RWA) was used to test hypotheses. Relative weights were significant for valuing (which explained 48.5% of the R^2), humor (21.2% of R^2) and receptive listening (9.73% of R^2), as hypothesized. However, the hypothesized relationships for downward comparison, expressive suppression, direct action, and reappraisal were not supported.

Table 7.

Descriptive statistics, inter-correlations of regulation processes, and prediction of relationship satisfaction (correlations, multiple regression, and relative weights analysis)

	Descriptive Statistics			Inter-Correlations of Extrinsic Regulation Processes								Prediction of Relationship Satisfaction			
	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7	8	<i>r</i>	β	RW	%R2
1. Expressive Suppression	2.21	0.92	.80									-.05	-.09	.01	2.23
2. Downward Comparison	3.39	1.31	.91	.61***								.06	.03	.00	0.81
3. Humor	4.83	0.88	.89	.02	.15*							.33***	.18**	.05*	21.20
4. Distraction	4.45	0.86	.83	.27***	.37***	.57***						.23***	-.05	.01	5.56
5. Direct Action	4.11	0.94	.77	.33***	.35***	.30***	.39***					.22***	.10	.02	8.76
6. Reappraisal	4.31	0.85	.86	.32***	.52***	.28***	.51***	.56***				.18**	.03	.01	3.19
7. Receptive Listening	5.07	0.77	.83	-.18**	.06	.37***	.40***	.23***	.43***			.27***	-.10	.02*	9.73
8. Valuing	5.03	0.81	.89	-.09	.07	.44***	.44***	.27***	.29***	.67***		.43***	.40***	.11*	48.50
9. Relationship Satisfaction	3.54	0.38	.92	-.05	.06	.33***	.23***	.22***	.18**	.27***	.43***				

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

3.4 Discussion

Our results supported hypotheses based on extrinsic regulation research and theory (i.e., valuing, humor, and receptive listening significantly predicted greater relationship satisfaction) but not for the hypotheses based on prior research on intrinsic emotion regulation (i.e., downward comparison, expressive suppression, direct action, and reappraisal did not significantly predict relationship satisfaction). These results highlight the distinction between intrinsic and extrinsic emotion regulation - just because a process works for you does not mean it works for your partner.

Valuing. Consistent with prior research, valuing was the strongest predictor of greater regulator relationship satisfaction. Complimenting and valuing one's partner benefits both the giver and receiver of the compliments (Doohan & Manusov, 2004). What is less clear from our results is the direction of causation. Relationship satisfaction may facilitate the act of valuing one's partner (where those who are more satisfied are more likely to use valuing to regulate their partner's emotions). Alternatively valuing one's partner may create positive feelings about the partner and relationship thus strengthening relationship satisfaction (Murray & Homes, 2009; Murray et al., 2010).

Humor. Results for humor are consistent with prior meta-analytic findings where humor predicted greater relationship satisfaction (Hall, 2017). In fact, shared laughter within a relationship predicts not only relationship satisfaction, but also evaluations of closeness, relationship quality, and social support (Kurtz & Algoe, 2015). This is in line with research on humour and attraction which demonstrates that men are more likely to be attracted to women who value their wit, and in turn, women are attracted to someone who makes them laugh (Bressler et al., 2006; Hone et al., 2015).

Receptive listening. Consistent with prior research, our results indicate that receptive listening positively predicts relationship satisfaction (Pasupathi et al., 1999; Seehausen et al.,

2012). Disclosing negative emotions to one's romantic partner may indicate trust and a desire to connect with the listener (Graham et al., 2008). This may increase feelings of closeness and trust between the listener and their partner (Graham et al., 2008; Kashdan et al., 2007; Von Culin et al., 2017), which ultimately enhances the listener's perception of their relationship satisfaction.

In contrast, expressive suppression, downward comparison, distraction, direct action, and reappraisal did not significantly predict relationship satisfaction. The null results for expressive suppression deviate from prior research where expressive suppression was associated with lower relationship satisfaction (English et al., 2012; Gross, 2012; Sasaki et al., 2021; Vater & Schröder-Abé, 2015). However, this past research has examined *intrinsic regulation*. Suppressing one's own emotions is qualitatively different to the verbally-mediated act of telling someone else to change their expression of emotion. Similarly, the prior research showing that cognitive reappraisal processes related to greater relationship satisfaction focused on *intrinsic regulation*. These results may not generalize to extrinsic processes. In fact, Niven et al. (2015) suggest that extrinsic reappraisal may be viewed negatively by targets—as 'splaining' their own thoughts and feelings to them.

The motivation underlying the use of disengagement-focused processes, such as expressive suppression, may influence the extent to which they predict relationship satisfaction (Niven et al., 2019). That is, when the regulator's prosocial underlying motivation is to positively influence their partner's emotions, then the usually negative impact of using a less emotionally-engaging process may be diminished (Niven et al., 2019). Conversely, when the motivation of the regulator in using disengagement-focused processes is egoistic, we may see disengagement-focused processes leading to lower relationship satisfaction in both the target and regulator.

Limitations and future research

The results of this study may represent the perspective of partner-as-regulators who are

already happy in their relationship. Because the regulators are satisfied with their relationship, they are willing to engage emotionally with their partner. On the other hand, the regulator's belief in their ability to make their partner laugh, and/or value their partner, may increase the regulator's confidence that they can regulate their partner's emotions thus leading to greater feelings of relationship satisfaction (Kirby & Baucom, 2017). Similarly, concerning the use of disengagement-focused processes, the already strong relationship satisfaction of the partner-as-regulator may act as a buffer such that the use of disengagement-focused processes do not significantly relate to relationship satisfaction. As the results from this study are potentially bi-directional, it is not possible to derive causal explanations from this cross-sectional study. Future longitudinal research is needed to determine whether the use of emotionally engaging extrinsic regulation processes increase relationship satisfaction, whether existing relationship satisfaction encourages greater emotional engagement when regulating one's romantic partner, or whether there is a feedback loop, consistent with Gross' extended process model (Gross, 2015).

Additionally, future research may consider taking a dyadic approach to examine how much the discrete extrinsic emotion regulation processes used by the regulator predict relationship satisfaction of both regulator and target. Moreover, exploring the extent to which the regulator's underlying motivation for regulation impacts not only the use of discrete extrinsic regulation processes, but also the extent to which the discrete processes and motivation interact to predict relationship satisfaction in both target and regulator is needed.

Conclusion

This research is among the first to evaluate the extent to which eight discrete emotion regulation processes relate to the relationship satisfaction of the regulator. The results of this study demonstrates that using listening, humor and valuing to make one's partner feel better is associated with the regulator feeling more satisfied in their relationship.

References

- Antonucci, T. C., Lansford, J. E., & Akiyama, H. (2001). Impact of positive and negative aspects of marital relationships and friendship on well-being of older adults. *Applied Developmental Science*, 5, 68–75. https://doi.org/10.1207/S1532480XADS0502_2.
- Ben-Naim, S., Hirschberger, G., Ein-Dor, T., & Mikulincer, M. (2013). An experimental study of emotion regulation during relationship conflict interactions: The moderating role of attachment orientations. *Emotion*, 13(3), 1-14. <https://doi.org/10.1037/a0031473>
- Bravo, V., Connolly, J., & McIsaac, C. (2017). Why did it end? Breakup reasons of youth of different gender, dating stages, and ages. *Emerging Adulthood*, 5(4), 230-240. <https://doi.org/10.1177/2167696817700261>
- Bressler, E. R., Martin, R. A., & Balshine, S. (2006). Production and appreciation of humor as sexually selected traits. *Evolution and Human Behavior*, 27(2), 121-130. <https://doi.org/10.1016/j.evolhumbehav.2005.09.001>
- Cann, A., Zapata, C. L., & Davis, H. B. (2009). Positive and negative styles of humor in communication: Evidence for the importance of considering both styles. *Communication Quarterly*, 57, 452–468. <http://10.1080/01463370903313398>
- Carstensen, L. L., Gottman, J. M., & Levenson, R. W. (1995). Emotional behavior in long-term marriage. *Psychology and Aging*, 10(1), 140. <https://doi.org/10.1037/0882-7974.10.1.140>
- Chan M (2021). Martinctc/rwa: Perform a Relative Weights Analysis. (URL: <https://github.com/martinctc/rwa>), R package version 0.0.3, <URL: <https://cran.r-project.org/web/packages/rwa/readme/README.html>>
- Doohan, E. A. M., & Manusov, V. (2004). The communication of compliments in romantic relationships: An investigation of relational satisfaction and sex differences and similarities in compliment behavior. *Western Journal of Communication (includes Communication Reports)*, 68(2), 170-194. <https://doi.org/10.1080/10570310409374795>
- English, T., John, O. P., Srivastava, S., & Gross, J. J. (2012). Emotion regulation and peer-rated

- social functioning: A 4-year longitudinal study. *Journal of Research in Personality*, 46, 780–784. <http://dx.doi.org/10.1016/j.jrp.2012.09.006>
- Fan, J., & Wang, Y. (2022). English as a foreign language teachers' professional success in the Chinese context: The effects of well-being and emotion regulation. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.952503>
- Fletcher, G. J., Simpson, J. A., Campbell, L., & Overall, N. C. (2015). Pair-bonding, romantic love, and evolution the curious case of homo sapiens. *Perspectives on Psychological Science*, 10, 20–36. <https://doi.org/10.1177/1745691614561683>
- Fredrickson, B. L., & Levenson, R. W. (1998). Positive emotions speed recovery from the cardiovascular sequelae of negative emotions. *Cognition & Emotion*, 12, 191–220. <https://doi.org/10.1080/026999398379718>
- Girme, Y. U., Maniaci, M. R., Reis, H. T., McNulty, J. K., Carmichael, C. L., Gable, S. L., Baker, L. R., & Overall, N. C. (2018). Does support need to be seen? Daily invisible support promotes next day relationship well-being. *Journal of Family Psychology*, 32(7), 882–893. <https://doi.org/10.1037/fam0000453>
- Graham, S. M., Huang, J. Y., Clark, M. S., & Helgeson, V. S. (2008). The positives of negative emotions: Willingness to express negative emotions promotes relationships. *Personality and Social Psychology Bulletin*, 34(3), 394-406. <https://doi.org/10.1177/0146167207311281>
- Greenier, V., Derakhshan, A., & Fathi, J. (2021). Emotion regulation and psychological well-being in teacher work engagement: a case of British and Iranian English language teachers. *System*, 97, 102446. <https://doi.org/10.1016/j.system.2020.102446>
- Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General Psychology*, 2(3), 271-299. <https://doi.org/10.1037/1089-2680.2.3.271>
- Gross, J. J. (2002). Emotion regulation: Affective, cognitive, and social consequences. *Psychophysiology*, 39(3), 281-291.

<https://doi.org/10.1017.S0048577201393198>

- Gross, J. J. (2015). The extended process model of emotion regulation: Elaborations, applications, and future directions. *Psychological Inquiry*, 26(1), 130-137.
<https://doi.org/10.1080/1047840X.2015.989751>
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, 85(2), 348-362. <https://doi.org/10.1037/0022-3514.85.2.348>
- Gross, J. J., Richards, J. M., & John, O. P. (2006). Emotion regulation in everyday life. In D. K. Snyder, J. A. Simpson, & J. N. Hughes (Eds.), *Emotion regulation in couples and families: Pathways to dysfunction and health* (pp. 13–36). Washington, DC: American Psychological Association
- Hall, J. A. (2017). Humor in romantic relationships: A meta-analysis. *Personal Relationships*, 24(2), 306-322. <https://doi.org/10.1111/per.12183>
- Hendrick, S. S. (1988). A generic measure of relationship satisfaction. *Journal of Marriage and the Family*, 93-98. <https://doi.org/10.2307/352430>
- Hendrick, S. S., Dicke, A., & Hendrick, C. (1998). The relationship assessment scale. *Journal of Social and Personal Relationships*, 15, 137–142.
<https://doi.org/10.1177/0265407598151009>
- Hone, L. S., Hurwitz, W., & Lieberman, D. (2015). Sex differences in preferences for humor: A replication, modification, and extension. *Evolutionary Psychology*, 13(1), 147470491501300110. <https://doi.org/10.1177/147470491501300110>
- Kashdan, T. B., Volkmann, J. R., Breen, W. E., & Han, S. (2007). Social anxiety and romantic relationships: The costs and benefits of negative emotion expression are context-dependent. *Journal of Anxiety Disorders*, 21(4), 475-492.
<https://doi.org/10.1016/j.janxdis.2006.08.007>
- Kinkead, A., Sanduvete-Chaves, S., Chacón-Moscoso, S., & Salas, C. E. (2021). Couples

- extrinsic emotion regulation questionnaire: Psychometric validation in a Chilean population. *Plos One*, 16(6), e0252329. <https://doi.org/10.1371/journal.pone.0252329>
- Kirby, J. S., & Baucom, D. H. (2007). Treating emotion dysregulation in a couples context: A pilot study of a couples skills group intervention. *Journal of Marital and Family Therapy*, 33(3), 375-391. <https://doi.org/10.1111/j.1752-0606.2007.00037.x>
- Levenson, R. W., Haase, C. M., Bloch, L., Holley, S. R., & Seider, B. H. (2014). Emotion regulation in couples. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 267–283). The Guilford Press
- MacCann, C., Olderback, S., Austin, E., Pinkus, R.T., Double, K.S., Walker, S.A., Kunst, H., & Niven, K. (2019) What do we do to help others feel better? Eight extrinsic emotion regulation processes linked to affective and interpersonal outcomes. [Conference session]. Australasian Congress for Personality & Individual Differences, Bond University, QLD, Australia.
- Mazzuca, S., Kafetsios, K., Livi, S., & Presaghi, F. (2019). Emotion regulation and satisfaction in long-term marital relationships: The role of emotional contagion. *Journal of Social and Personal Relationships*, 36(9), 2880-2895. <https://10.1177/0265407518804452>
- McNulty, J. K., Meltzer, A. L., Neff, L. A., & Karney, B. R. (2021). How both partners' individual differences, stress, and behavior predict change in relationship satisfaction: Extending the VSA model. *Proceedings of the National Academy of Sciences*, 118(27). <https://doi.org/10.1073/pnas.2101402118>
- Murray, S. L., & Holmes, J. G. (2009). The architecture of interdependent minds: A Motivation-management theory of mutual responsiveness. *Psychological Review*, 116(4), 908. <https://doi.org/10.1037/0022-3514.88.2.327>
- Murray, S. L., Holmes, J. G., & Pinkus, R. T. (2010). A smart unconscious? Procedural origins of automatic partner attitudes in marriage. *Journal of Experimental Social Psychology*, 46(4), 650-656. <https://doi.org/10.1016/j.jesp.2010.03.003>

- Nils, F., & Rimé, B. (2012). Beyond the myth of venting: Social sharing modes determine the benefits of emotional disclosure. *European Journal of Social Psychology*, 42, 672-681. <https://doi.org/10.1002/ejsp.1880>
- Niven., K., Garcia, D., Löwe, I. V. D., Holman, D., & Mansell, W. (2015). Becoming popular: Interpersonal emotion regulation predicts relationship formation in real life social networks. *Frontiers in Psychology*, 6, 1452. <https://doi.org/10.3389/fpsyg.2015.01452>
- Niven, K., Macdonald, I., & Holman, D. (2012). You spin me right round: Cross-relationship variability in interpersonal emotion regulation. *Frontiers in Psychology*, 3, 394. <https://doi.org/10.3389/fpsyg.2012.00394>
- Niven, K., Totterdell, P., Holman, D., & Headley, T. (2012). Does regulating others' feelings influence people's own affective well-being?. *The Journal of Social Psychology*, 152(2), 246-260. <https://doi.org/10.1080/00224545.2011.599823>
- Niven, K., Totterdell, P., Stride, C. B., & Holman, D. (2011). Emotion Regulation of Others and Self (EROS): The development and validation of a new individual difference measure. *Current Psychology*, 30(1), 53-73. <https://doi.org/10.1007/s12144-011-9099-9>
- Niven, K., Troth, A. C., & Holman, D. (2019). Do the effects of interpersonal emotion regulation depend on people's underlying motives?. *Journal of Occupational and Organizational Psychology*, 92(4), 1020-1026. <https://doi.org/10.1111/joop.12257>
- Nozaki, Y., & Mikolajczak, M. (2020). Extrinsic emotion regulation. *Emotion*, 20(1), 10-15. <https://doi.org/10.037/emo0000636>
- Pateraki, E., & Roussi, P. (2013). Marital quality and well-being: The role of gender, marital duration, social support and cultural context. A Positive Psychology Perspective on Quality of Life: *Social Indicators Research Series*, 51, 125–145. https://doi.org/10.1007/978-94-007-4963-4_8.
- Pinkus, R. T., Lockwood, P., Schimmack, U., & Fournier, M. A. (2008). For better and for worse: Everyday social comparisons between romantic partners. *Journal of Personality*

- and Social Psychology*, 95(5), 1180–1201. <https://doi.org/10.1037/0022-3514.95.5.1180>
- Pauw, L. S., Sauter, D. A., Van Kleef, G. A., & Fischer, A. H. (2018). Sense or sensibility? Social sharers' evaluations of socio-affective vs. cognitive support in response to negative emotions. *Cognition and Emotion*, 32, 1247-1264.
- <https://doi.org/10.1080/02699931.2017.1400949> Proulx, C. M., Helms, H. M., & Buehler, C. (2007). Marital quality and personal well-being: A meta-analysis. *Journal of Marriage and Family*, 69(3), 576-593. <https://doi.org/10.1111/j.1741-3737.2007.00393.x>
- R Core Team (2021). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL <https://www.R-project.org/>.
- Rusu, P. P., Bodenmann, G., & Kayser, K. (2019). Cognitive emotion regulation and positive dyadic outcomes in married couples. *Journal of Social and Personal Relationships*, 36(1), 359-376. <https://doi.org/10.1177/0265407517751664>
- Sasaki, E., Overall, N. C., Chang, V. T., & Low, R. S. (2021). A dyadic perspective of expressive suppression: Own or partner suppression weakens relationships. *Emotion*. <https://doi.org/10.1037/emo0000978>
- Seehausen, M., Kazzer, P., Bajbouj, M., & Prehn, K. (2012). Effects of empathic paraphrasing—extrinsic emotion regulation in social conflict. *Frontiers in Psychology*, 3, 482. <https://doi.org/10.3389/fpsyg.2012.00482>
- Strick, M., Holland, R. W., van Baaren, R. B., & Van Knippenberg, A. D. (2009). Finding comfort in a joke: Consolatory effects of humor through cognitive distraction. *Emotion*, 9, 574–578. <https://doi.org/10.1037/a0015951>
- Tonidandel, S., LeBreton, J. M., & Johnson, J. W. (2009). Determining the statistical significance of relative weights. *Psychological Methods*, 14(4), 387. <https://doi.org/10.1037/a0017735>
- Torchiano M (2020). `_effsize: Efficient Effect Size Computation_`. doi: 10.5281/zenodo.1480624 (URL:<https://doi.org/10.5281/zenodo.1480624>), R package version 0.8.1,

<URL:<https://CRAN.R-project.org/package=effsize>>.

- Vater, A., & Schröder-Abé, M. (2015). Explaining the link between personality and relationship satisfaction: Emotion regulation and interpersonal behaviour in conflict discussions. *European Journal of Personality*, 29(2), 201-215. <https://doi.org/10.1002/per.1993>
- Von Culin, K. R., Hirsch, J. L., & Clark, M. S. (2018). Willingness to express emotion depends upon perceiving partner care. *Cognition and Emotion*, 32(3), 641-650. <https://doi.org/10.1080/02699931.2017.1331906>
- Voss, K., Markiewicz, D., & Doyle, A. B. (1999). Friendship, marriage and self-esteem. *Journal of Social and Personal Relationships*, 16(1), 103-122. <https://doi.org/10.1177/0265407599161006>
- Whisman, M. A. (2007). Marital distress and DSM-IV psychiatric disorders in a population-based national survey. *Journal of Abnormal Psychology*, 116(3), 638. <https://doi.org/10.1037/0021-843X.116.3.638>
- Williams, M., & Emich, K. J. (2014). The experience of failed humor: Implications for interpersonal affect regulation. *Journal of Business and Psychology*, 29(4), 651-668. <https://doi.org/10.1007/s10869-014-9370-9>
- Williams, W. C., Morelli, S. A., Ong, D. C., & Zaki, J. (2018). Interpersonal emotion regulation: Implications for affiliation, perceived support, relationships, and well-being. *Journal of Personality and Social Psychology*, 115(2), 224. <https://doi.org/10.1037/pspi0000132>

Chapter 4: It's What I Think You Do That Matters: Comparing Self, Partner, and Shared Perspectives of What a Romantic Partner Does to Regulate Your Emotions

The manuscript that follows is currently under revise and resubmit with the European Journal of Personality.

Abstract

Romantic partners routinely regulate each other's emotions; this phenomenon is known as *extrinsic emotion regulation*. Previous research investigating emotion regulation in couples has typically examined self-report of emotion regulation from only one member of the couple. It is therefore unclear how much romantic partners agree on which emotion regulation strategies their partner uses and whether this agreement or the unique perspective of each person is the stronger predictor of relationship quality. In the current study (N=395 romantic couples), we applied a bifactor model to assess the extent to which extrinsic emotion regulation processes (expressive suppression, downward social comparison, humor, distraction, direct action, reappraisal, receptive listening, and valuing) related to relationship quality, comparing: a) the unique perspective of the regulator, b) the unique perspective of the target, and c) the shared perspective (consensus) between the target and regulator. The results indicated that it is the target's, rather than the regulator's perspective of emotion regulation that predicts the relationship quality of both members of the romantic couple. Overall, these findings suggest that it is not what the regulator thinks they do to regulate their romantic partner's emotions that relates to relationship quality, but rather the target's perceptions of the regulation attempt.

Keywords: extrinsic emotion regulation, relationship quality, interpersonal emotion regulation, romantic couples

It's What I Think You Do That Matters: Comparing Self, Partner, and Shared Perspectives of What a Romantic Partner Does to Regulate Your Emotions

Emotion regulation refers to the processes people use to influence the intensity, duration, and expression of emotions (Gross, 2002). Although research has typically focused on intrinsic processes (how someone regulates their own emotions; Gross 1998), interest in extrinsic emotion regulation (how someone attempts to regulate the emotions of others; Gross 2015) has burgeoned in recent years (Dixon-Gordon et al., 2015; Ford & Gross, 2017; Nozaki & Mikolajczak, 2020). There is substantial evidence that people not only regulate their own emotions (Gross, 1998) but they also attempt to regulate the emotions of others (Niven, Macdonald et al., 2012; Nozaki & Mikolajczak, 2020; Williams et al., 2018). For example, you (the regulator) might try to help your partner (the target) feel better (regulating your partner's emotions) by diverting their attention away from the source of their stress (a distraction process), by encouraging them to change how they interpret the situation (a reappraisal process), or by telling them a joke (a humour process). Unsurprisingly, pro-hedonic extrinsic emotion regulation in couples (i.e., attempting to make a romantic partner feel better) has been linked to higher relationship satisfaction (e.g., Kinkead et al., 2021; Williams et al., 2018). However, much of this research has examined only one member of the romantic couple – either the regulator or the target. As such, it is not yet clear how much regulator and target perspectives differ on which processes the regulator used, nor which perspective shows the strongest links to outcomes such as relationship quality. We address this gap by assessing self- and informant-reported extrinsic emotion regulation and using a bifactor modeling approach to examine the unique perspectives of the regulator (e.g., I made my partner laugh), and the target (e.g., My partner made me laugh) as well as the shared perspective (i.e., the agreement between the two people) as predictors of relationship quality.

Extrinsic Emotion Regulation

Emotion regulation is important for both personal wellbeing (Gross & John, 2003), and

for relationship quality (Niven et al. 2015; Williams et al., 2018). Intrinsic emotion regulation refers to the modulation and/or expression of one's own emotional experience (Gross & John, 2003). However, emotion regulation is rarely a purely solo process (Butler & Gross, 2009; Rime, 2007), with extrinsic emotion regulation understood as an attempt to influence the emotional experience of others (Niven et al., 2012; Nozaki & Mikolajczak, 2020; Tamminen et al., 2019; Zaki & Williams, 2013). Specifically, a key goal of extrinsic emotion regulation is to increase positive and/or decrease negative emotions in another person (Nozaki & Mikolajczak, 2020). However, despite the conceptual similarities between intrinsic and extrinsic emotion regulation, there are important differences. One key difference between intrinsic and extrinsic emotion regulation is the distinct roles of the regulator (the person making the regulation attempt) and the target (the person whose emotions are targeted for change). Intrinsic emotion regulation occurs when the regulator is motivated to regulate their own emotions. Extrinsic emotion regulation occurs when the regulator is motivated to regulate another person's emotions (the target). Accordingly, the regulator is required to perceive the target's emotion and identify the need for regulation, select a process, and then implement that process (Reeck et al., 2016). This can be done through a trial-and-error approach or by considering the specific emotional context, prior knowledge of the target's preferences for regulation, and likely appraisals by the target. Importantly, intrinsic and extrinsic emotion regulation can co-occur. By attempting to regulate the emotions of a distressed partner, for example, one can also downregulate one's own emotions that were generated by the distress one's partner expressed (Gross, 2008).

The primary conceptual model of extrinsic emotion regulation describes several processes that could be used to improve or worsen other people's emotions (Niven et al., 2009). The current study focuses only on extrinsic affect improving (i.e., pro-hedonic regulation, where the regulator attempts to up-regulate positive and/or down-regulate negative affect). Recent research has found support for eight possible extrinsic emotion regulation processes (Tanna & MacCann, 2022; Xiao et al., 2022). One could use *valuing* to tell an employee their work is

valuable, use *receptive listening* to encourage the other person to express their emotions, help a friend to *cognitively reappraise* a negative situation by helping them see it in a positive light, use *direct action* to change someone else's situation, use *humor* by telling the other person a joke to lighten the mood, use *distraction* to divert someone's attention away from a stressor, use *downward social comparison* to help a partner reconceptualize their problem as less distressing than other possibilities, or use *expressive suppression* to encourage someone not to give in to tears. Although downward comparison has been shown to improve one's own emotions (Wheeler & Miyake, 1992), it has only recently been considered as a possible emotion regulation process.

These processes are not equally effective in terms of the emotions they produce, or the downstream personal and relationship wellbeing outcomes. People report significantly higher positive and lower negative affect towards others who use receptive listening, valuing, reappraisal, and expressive suppression to regulate the emotions of other people (MacCann et al., 2022). In an experience-sampling study of undergraduate students, participants showed increases in positive affect but decreases in negative affect when they received humor or reappraisal from another person since the last time point (i.e., humor and reappraisal seem effective for regulating others' emotions; MacCann et al., 2022). People with higher emotion management ability (the core component of emotional intelligence) report using more valuing and receptive listening, but less expressive suppression and downward social comparison to regulate others' emotions (Xiao et al., 2022).

Extrinsic Emotion Regulation and Relationship Quality

Romantic relationships represent a core feature of people's lives. Characteristics such as commitment, love, trust, communication, security and emotional support help people evaluate the quality of their relationship (Fletcher et al., 2015; Hendrick et al., 1998). The expression of negative emotions can evoke emotional and behavioral responses in others (Kiltner & Haidt, 1999; Kiltner & Kring, 1998), motivating a sympathetic response toward the person who

expressed these emotions (Lench et al., 2016). Evidence suggests that people who attempt to regulate others' emotions develop stronger relationships, and deeper trust in those relationships (Keltner & Haidt, 2001; Keltner & Kring, 1998; Niven et al., 2012). Relationships involve the ebb and flow of negative and positive experiences, which inevitably influences both partners' well-being (Antonucci et al., 2001). For example, increased negative emotions and adverse mental and physical health outcomes for both partners can result when the relationship's needs and expectations are unmet (Bravo et al., 2017; McNulty et al., 2021; Whisman, 2007). Furthermore, the longer adverse outcomes persist, the more likely it is that relationship quality will decline, potentially leading to relationship breakdown (Bravo, 2017; McNulty et al., 2021). In contrast, when needs and expectations are met within the relationship, and conflict is addressed with effective communication and emotional support, there are greater overall perceptions of relationship quality within the partnership (Antonucci et al., 2001; Pateraki & Roussi, 2013; Voss et al., 1999).

Although much of the past emotion regulation research in romantic relationships examines intrinsic rather than extrinsic regulation processes, the interdependent nature of close relationships means that both partners' emotional experiences are inherently linked (Butler, 2015; Rusbult & Van Lange, 2003). That is, the way one person regulates their own emotions can positively or negatively impact their partner's emotions and emotional experiences (Proulx et al., 2007). From intrinsic emotion regulation research, it is clear that some regulatory processes are more effective than others in maintaining healthy relationships. For example, intrinsic expressive suppression (suppressing one's own emotions) leads to lower relationship satisfaction over time (Gross & John, 2003; Impett et al., 2012), whereas intrinsic cognitive reappraisal relates to higher relationship quality (Rusu et al., 2019). Given that prior research has shown that people deliberately provide support to a distressed partner (Bolger & Eckenrode, 1991), it is feasible that extrinsic expressive suppression and reappraisal may be similarly related to the perception of relationship quality reported by both partners. In situations where one partner's emotional insight

is limited, or they are having difficulty interpreting a situation, an external observer (regulator) may be able to offer an alternative perspective to help their partner reframe, or reinterpret the situation (Barrett, 2012), thus engaging extrinsic regulatory processes.

Similarly, extrinsic emotion regulation processes such as valuing and receptive listening, are centered on the relationship between the regulator and the target. In fact, Walker et al., (2022) shows that people who use extrinsic emotion regulation strategies to regulate their partner's emotions have higher relationship satisfaction, with the strongest effects for valuing, receptive listening, and humor. Listening to someone has been shown to improve the other person's emotional response to negative events in terms of subjective feelings and physiological response (Seehausen et al., 2012). Moreover, listening relates to increased feelings of closeness and reduced loneliness (Nils & Rime, 2012; Pauw et al., 2018). Likewise, humor is positively related to relationship quality (Cann et al., 2009; Carstensen et al., 1995; Kurtz & Algoe, 2015) and tends to improve positive emotions (Frederickson & Levenson, 1998; MacCann et al., 2022) while distracting from negative emotions (MacCann et al., 2022; Strick et al., 2009). In contrast, expressive suppression (encouraging the target to avoid verbally or physically expressing their emotions) generally negatively impacts romantic relationships (Sasaki et al., 2021). Although extrinsic emotion regulation processes have been examined within organizational (e.g., Niven et al., 2012), developmental (e.g., Kiel et al., 2020), and clinical (e.g., Fenning et al., 2018; Hoffman, 2014) literatures, research into the processes people use to regulate their romantic partner's emotions is relatively recent.

Self- and Informant-report Perspectives

Partner perception is an essential factor in predicting relationship satisfaction in romantic relationships (Joel et al., 2020) highlighting the importance of considering partners' perceptions within the relationship. Importantly, much of the research assessing extrinsic emotion regulation has used self-report measures examining the regulator and/or the target's perspective of emotion regulation process use. While valuable, a one-sided perspective does not consider the complexity

of the interdependent, interpersonal nature of extrinsic emotion regulation. For example, regulators cannot directly access a target's emotional state, and although they have access to expressive facial, verbal, and body expressions (Rime et al., 1998), accurately identifying a romantic partners' emotions can be difficult (Ickes et al., 1990; Zaki et al., 2008). Consequently, the regulator's inaccurate identification of the target's emotions may not only result in an ineffective regulation attempt, but it may also initiate other negative emotions (Levenson et al., 2014). Inevitably, the failed regulation attempt and inadvertently worsening of a partner's emotional experience may negatively impact both partners' perception of relationship quality (Marigold et al., 2014; Niven et al., 2012).

Examining the interplay between the intention of using extrinsic emotion regulation processes and their corresponding implementation is more nuanced and less straightforward than intentions and implementation of intrinsic emotion regulation processes. Given that extrinsic emotion regulation necessarily involves at least two people, exploring the combination of the 'self' (what I do to make my partner feel better [the regulator]) and 'informant' (what my partner does to make me feel better [the target]) perspectives can help to further our understanding of their association with relationship quality. One way to explore these concepts is by using a bifactor structural equation modeling approach to examine the unique perspectives of the regulator (what I do to make my partner feel better), and the unique perspectives of the target (what my partner does to make me feel better) once the shared variance is accounted for (see Figure 3). The bifactor model separates the general *shared* factor and models the specific self-report or informant-reported extrinsic emotion regulation process factors as latent variables. This allows direct examination of their independent relationship with relationship quality by regressing the outcome variable on the shared factor and the self- and informant-reported factors via a general structural equation model. Accordingly, the standardized regression coefficients can be interpreted as showing the unique contribution of the self-report (regulator) and the informant-report (target) to relationship quality independent of the other factors as a result of the

orthogonality of the factors (Gustaffson & Balke, 1992; Reise et al., 2013).

The aim of the current study is to explore the extent to which extrinsic emotion regulation processes relate to relationship quality, comparing: a) the unique perspective of the regulator (*what I report I do to make my partner feel better*), b) the unique perspective of the target (*what I report my partner does to make me feel better*) and c) the shared perspective (consensus) between the target and regulator. People who regulate others' emotions tend to develop more socially supportive relationships (Kinkead et al., 2021; Niven et al., 2012; Williams et al., 2018). As such, we expect the ***unique regulator perspective to significantly predict the regulator's relationship quality (Hypothesis 1a)***, with negative associations for expressive suppression and downward social comparison, and positive association for other processes. Even though the regulator is attempting to make the target feel better, the target's relationship quality is likely to relate more to their own unique perspective rather than the regulator's perspective. However, given the closeness of intimate relationships, ***we expect the unique regulator perspective will be significantly related to the target's relationship quality (Hypothesis 1b)***, with a negative association for expressive suppression and downward social comparison but a positive association for all other strategies. Regulating others' emotions leads to higher levels of trust and stronger relationships with both the target of regulation and the regulators themselves (Niven et al., 2012). Therefore, ***we expect that the unique target perspective of the regulation process will significantly relate to their own (target) relationship quality (Hypothesis 2a) as well as regulator relationship quality (Hypothesis 2b)*** with a negative association for expressive suppression and downward social comparison, and a positive association for the other processes. Additionally, ***we expect the shared perspective will significantly relate to both target (Hypothesis 3a) and regulator (Hypothesis 3b) relationship quality***, again with a negative association for expressive suppression and downward social comparison, and a positive association for the other processes.

4.2 Method

Participants and procedures

Romantic couples (dyads) who indicated they were in a heterosexual relationship were recruited through Prolific, an online crowdsourcing platform, to participate in this study. Each dyad consisted of a ‘regulator’ (who completed all surveys in self-report form) and a target (who completed the extrinsic emotion regulation survey in informant-report form and measures of relationship quality in self-report form; see Measures section for details). There were 395 couples in total consisting of 395 regulators (172 female, 223 male; $M_{age} = 36.71$ years, $SD = 10.22$ years) and 395 targets (223 female, 172 male; $M_{age} = 36.20$ years, $SD = 10.80$ years). The average relationship length was 10.87 years, with 0.77% of participants in a casual relationship, 28.10% in an exclusive (but not engaged) relationship, 9.87% engaged, and 61.26% married. Of those, 91.90% were cohabitating. A priori sample size for structural equation modeling (SEM) using Soper (2022) calculations indicated a sample size of at least 238 dyads were required to detect a small effect ($d = 0.3$) with 80% power at $\alpha = .05$. The SEM calculations are based on recommendations from Westland (2010).

The first member of a dyad to sign-up for the study was assigned as *the target* and asked to complete a short questionnaire to confirm eligibility (indicating that participants were in a heterosexual relationship of at least 6 months duration), and to provide their partner’s Prolific ID with consent to contact them. A total of 422 couples consented to participate, 211 were assigned as the *target* and their partners were assigned as *the regulator*. Consistent with the preregistration, participants were excluded if they were not in a heterosexual relationship, completed the survey in less than 1/3 median response time ($n = 3$ dyads); or participants failed 2 or more data attention checks ($n = 8$ dyads). In total, 395 dyads completed the full set of surveys and were included in analyses. Participants completed the survey over two-time points situated one week apart. Once participants completed the surveys, they were debriefed and thanked for their time. All protocols were approved by the Human Research Ethics Committee at the University of Sydney (2021/411). The study was preregistered, and the preregistration is

available here <https://aspredicted.org/blind.php?x=ar22v4>. Study data are available on the Open Science Framework (OSF;

https://osf.io/v9357/?view_only=340b23bed72c482da70ab852bb48e064).

Survey 1. Participants assigned as regulators completed surveys in self-report form.

Survey 2. Participants assigned as targets completed surveys in informant-report form.

Measures²

Extrinsic Emotion Regulation was assessed with the Regulation of Others' Emotions Scales (MacCann et al., 2022). Participants were asked to complete items in either regulator perspective ("Recently, I have done the following things to MAKE MY PARTNER FEEL BETTER") or target perspective ("Recently, my partner has done the following things TO MAKE ME FEEL BETTER"). The scale is composed of 32 items assessing eight regulation processes (4 items per process), where participants rated their agreement (1 = *strongly disagree*, 6 = *strongly agree*) with statements such as "I [*They*]³ asked me to put a brave face on" (i.e., expressive suppression), "I [*They*] talked about people who have even bigger problems" (i.e., downward comparison), "I [*They*] made jokes to make them/me smile" (i.e., humor), "I [*They*]diverted their/my attention to something else" (i.e., distraction), "I [*They*] took action to change their/my situation" (i.e., direct action), "I [*They*] discussed different ways of interpreting the situation" (i.e., reappraisal), "I [*They*] allowed them/me to vent my emotions" (i.e., receptive listening), "I [*They*] made them/me feel special or cared about" (i.e., valuing). Responses were summed to get indices of each strategy.

Relationship quality was assessed with a composite score derived from measures of Relationship Satisfaction, Conflict (reverse scored), Trust, and Closeness. Scores were standardized (z-score) and converted to *t*-scores. Relationship satisfaction was assessed with

² Consistent with prior studies that have adapted self-report scales for informant use, we changed first person pronouns to third person pronouns (Bagby et al., 1998). Only the Regulation of Others' Emotions Scale was assessed as both self (the regulator)- and informant (the target)-reports. The instructions were contextualized to the strategies one generally uses on their romantic partner.

³ The "I" represents the self-reported (regulator), and 'they' the informant-reported (target) questionnaire.

items from the measure of relation satisfaction in Murray et al. (1996a; 1996b). The scale is composed of 4 items where participants rated their agreement (1 = *not at all true*, 9 = *completely true*) with statements such as “I have a very strong relationship with my partner”. Conflict was assessed with items from the Relationship Conflict scale (Cavallo et al., 2012). The scale is composed of 5 items where participants rated their agreement (1 = *almost never*, 7 = *every day*) with statements such as “How often do you and your partner have disagreements?”. Trust was assessed with items from the Trust in Close Relationships scale (Wieselquist et al., 1999). The scale is composed of 12 items where participants rated their agreement (1 = *completely disagree*, 8 = *completely agree*) with statements such as “I can rely on my partner to react in a positive way when I expose my weaknesses to him/her”. Closeness was assessed with items from Murray, Pinkus et al. (2011). The closeness measure is composed of 7 items where participants rated their agreement (1 = *not at all true*, 5 = *completely true*) with statements such as “I feel extremely attached to my partner”.

Analysis

Measurement and structural bifactor models were constructed separately for each extrinsic emotion regulation process, specifying the target perspective, regulator perspective, and shared perspective, which in turn predicted relationship quality. Relationship length was controlled in each model (see Figure 3). Analyses for each bi-factor model were conducted using structural equation modeling (SEM) in JASP version 0.16.3 (JASP Team, 2022). Each item is simultaneously loaded onto the shared perspective factor, and either the target or regulator perspective factor (see Figure 4). Models were identified by fixing factor variances to 1.0. All models were assessed according to common guidelines relating to adequate model fit (e.g., $CFI \geq .95$, $RMSEA \leq .05$; Hu & Bentler, 1999; Kline, 2015).

4.3 Results

Reliability and Descriptive Statistics

Table 8 presents the internal consistencies, and descriptive statistics of and correlations between self-rated (regulator), and informant-rated (target) ROES subscales, relationship quality, and relationship length. Internal consistency for the ROES subscale scores and relationship quality were good. The pattern of correlations between self- and informant-reported ROES presented in Table 8 were relatively large and comparable with prior meta-analytic findings demonstrating high agreement across self-informant ratings (Connelly & Ones, 2010). Agreement between self (regulator) and informant (target) reports ranged between $r = .29$ for direct action, and $r = .52$ for expressive suppression, which is consistent with MacCann et al. (2022) where self-informant agreement was strongest for expressive suppression ($r = .57$) and weakest for direct action ($r = .28$).

Structural Equation Model

We fit bi-factor latent variable models to examine the contribution of shared-, regulator-, and target-related variables in predicting relationship quality. Table 9 presents the bifactor model fit statistics for each of the eight extrinsic emotion regulation factors. Model fit was within the accepted standard (Hu & Bentler, 1999) for each regulation process for RMSEA, however, the SRMR was generally high across all regulation processes. Next, we examined the factor loadings of items on the shared, regulator, and target factors (see Table 10). In general, the average target (informant-report) factor loadings were stronger than the regulator (self-report) factor loadings except for expressive suppression and humor which were relatively comparable.

Hypotheses

Next, we examined our central hypotheses about how the shared, regulator, and target factors for each ROES process predict regulator and target relationship satisfaction. Table 11 presents the path coefficients for the ROES processes and relationship quality of the target and regulator.

Hypothesis 1a: Regulator's unique perspective of extrinsic regulation processes will

predict regulator-rated relationship quality. Of the eight processes, three showed the hypothesized effect (a positive association for direct action and receptive listening, and a negative association for expressive suppression) and five showed no significant association (downward comparison, humor, distraction, positive reappraisal, valuing). Effect size was small for direct action ($\beta = .13$), small-to-moderate for receptive listening ($\beta = .18$), and moderate-to-large for expressive suppression ($\beta = -.40$). There is therefore partial support for H1a.

Hypothesis 1b: Regulator's unique perspective of extrinsic regulation processes will predict target-rated relationship quality. Of the eight regulation processes, only one (expressive suppression) showed a significant effect ($\beta = -.47$). With this one exception, results are therefore not consistent with our expectations for H1b.

Hypothesis 2a: Target's unique perspective of extrinsic regulation processes will predict target-rated relationship quality. Of the eight regulation processes, seven showed the expected effect (i.e., significant positive associations for humor, distraction, direct action, positive reappraisal, receptive listening, and valuing, and a significant negative association for expressive suppression). Effect sizes were moderate-to-large or large, ranging from $\beta = .39$ (for humor and distraction) to $\beta = .59$ (for receptive listening). Only downward social comparison was not significantly associated with relationship quality. Therefore, we have support for H2a (with the exception of downward social comparison).

Hypothesis 2b: Target's unique perspective of extrinsic regulation processes will predict regulator-rated relationship quality. Results for H2b (examining regulator relationship quality) were analogous to H2a (examining target relationship quality), but with smaller effect sizes. That is, five processes significantly predicted greater regulator-rated relationship quality (distraction, direct action, positive reappraisal, receptive listening, and valuing). Effect sizes were small-to-moderate in all cases, ranging from $\beta = .17$ (for positive reappraisal) to $\beta = .25$ (for direction action). Again, expressive suppression showed a significant negative relationship with relationship quality ($\beta = -.31$) and downward social comparison was unrelated to relationship

quality. Results largely support H2b.

Hypothesis 3a: Shared perspective on extrinsic regulation processes will predict target-rated relationship quality. Consistent with this hypothesis, the shared perspectives of expressive suppression, distraction, positive reappraisal, receptive listening, and valuing showed significant small-to-moderate positive associations with the target's relationship quality ranging from $\beta = .13$ (for distraction) to $\beta = .40$ (for expressive suppression). In contrast to expectations, downward comparison, humor, and direct action were not associated with the target's relationship quality. Therefore, there is partial support for H3a.

Hypothesis 3b: Shared perspective on extrinsic regulation processes will predict regulator-rated relationship quality. Expressive suppression, distraction, receptive listening, and valuing showed small to moderate associations with the regulator's relationship quality ranging from $\beta = .14$ (for distraction) to $\beta = .40$ (for valuing). In contrast to expectations, downward comparison, humor, direct action, and reappraisal were not associated with the regulator's relationship quality. Therefore, there is partial support for H3b.

4.4 Discussion

Extrinsic emotion regulation necessarily involves at least two people; the person who attempts to regulate the emotions of another person (regulator) and the person who is the target of the regulation attempt (target). The main objective of this study was to examine the association between the regulation of others' emotions as unique perspectives between the regulator (self-report) and the target (informant-report), and their respective, self-reported ratings of relationship quality. Applying a bifactor model, we collected ratings of extrinsic emotion regulation process use from one member of the romantic couple designated as the regulator. The regulator provided self-report ratings of what they did to make their partner feel better. The other member of the romantic couple was designated as the target, and they provided informant-report ratings of what the regulator did to make them feel better. Overall, the results of this study

provide important insight into the extent to which both the target's and the regulator's feelings of relationship quality are generally impacted by the target's, rather than the regulator's, perspective.

Unique target perspectives

The most compelling results from this study relate to the unique target perspectives of extrinsic emotion regulation. Recall that the target reported what their partner (the regulator) does to make them feel better. As expected, we found the target's perspective was a key predictor of their own and their partner's self-reported ratings of relationship quality. In particular, there were moderate to strong relations between humor, distraction, direct action, positive reappraisal, receptive listening, and valuing with the target's self-reported ratings of relationship quality. These results are consistent with prior theoretical and empirical evidence which suggests that a target's positive view of a regulation attempt may contribute to the development and maintenance of high-quality relationships (Niven et al., 2012; Schwarz & Clore, 1983). Similarly, should a target view a regulation attempt negatively, then this may influence the target's evaluation of the relationship resulting in lower levels of relationship quality (Schwarz & Clore, 1983). This may be a possible explanation for the strong negative association found between the target's perspective of expressive suppression and their own rating of relationship quality. For example, a regulator may genuinely try to make their partner feel better by suggesting they *smile* instead of *frown*, but the target may construe this use of expressive suppression negatively, thus potentially contributing to overall lower relationship quality.

Interestingly, the target's perspective of the regulator's use of expressive suppression not only negatively impacts the target's rating, but also the regulator's rating of relationship quality. Prior research has found that one partner's use of intrinsic expressive suppression negatively impacts relationship satisfaction of both partners (Sasaki et al., 2021). The results of the present study extend earlier research demonstrating that extrinsic expressive suppression has a similar

effect. Using expressive suppression to regulate one's romantic partner may not have the desired effect, instead reducing the perceived relationship quality of both partners. An important caveat is that causality should not be assumed from these results. It is possible that individuals in unhappy relationships may use expressive suppression more frequently as a way of avoiding emotional engagement with their partner.

There were small relations between the target's perspective of distraction, direct action, positive reappraisal, receptive listening, and valuing, and the regulator's report of relationship quality. A more complex potential explanation of these results could be derived from the social interaction model (Côté, 2005). Although the social interaction model has been applied predominantly within organizational research, the principles can be applied to romantic relationships. That is, the feedback the regulator receives from the target following the attempted implementation of a regulatory process, influences the positive or negative emotions of the regulator thus potentially contributing to the regulator's rating of relationship quality. Marigold et al. (2014) and Niven et al. (2012) showed that the target's affective state following a regulation attempt influenced the affective state of the regulator. Overall, our results provide a case to further explore the important role of feedback between target and regulator in extrinsic emotion regulation within romantic relationships.

Unique regulator perspectives

Prior research suggests that the regulator is likely to feel positive affect following an interpersonal interaction and that these positive feelings influence the regulator's judgment of relationship quality (Niven et al., 2012). Conversely, a regulator is likely to be negatively impacted should a regulation attempt fail (Marigold et al., 2014). Surprisingly, the results of our study indicated the regulator's unique perspective was not a key driver of either the regulator or the target's self-reported ratings of relationship quality (although there were exceptions). The key exception was the regulator's perspective of expressive suppression use which was strongly and negatively related to both the regulator's and target's reports of relationship quality. This

indicates that higher use of expressive suppression was associated with lower perceived relationship quality. This is unsurprising given that long-term use of expressive suppression typically predicts difficulties in interpersonal relationships (Sasaki et al., 2021).

In contrast, we expected the remaining extrinsic emotion regulation processes to be positively related to the regulator's ratings of relationship quality given that attempts to make someone feel better are generally related to higher reported levels of closeness, trust, and friendship (Niven et al., 2012). Instead, we found small positive effects for the association between direct action and receptive listening only. Additionally, except for expressive suppression which was strongly negatively associated with the target's relationship quality, there were no other significant results. The results of this study suggest that what the regulator says they do to make their partner feel better generally does not influence either the target or the regulator's relationship quality.

Shared perspective

The results of this study showed that the extent to which the partners agreed on the use of expressive suppression (shared perspective) was positively associated with their self-reported relationship quality. This is despite the negative association of the target and regulator's unique perspectives of expressive suppression with relationship quality. One possible explanation is based on findings from prior research examining couple identity in romantic relationships. When couples are 'in sync' they tend to report higher levels of relationship commitment (Emery et al., 2021). It is possible that the extent to which partners agree (or are 'in sync') on the use of expressive suppression drives the positive association with relationship quality rather than the use of expressive suppression itself. This may also explain the other emotion regulation processes in which the shared perspective was positively associated with both the target's and the regulator's self-reported relationship quality. That is, the consensus shared by the couple on a specific emotion regulation process, rather than the process itself, is associated with their self-reported perception of relationship quality.

Future Research

This study provides a foundation for future research that seeks to further understand the impact of extrinsic emotion regulation on romantic relationships. Furthermore, these results can be applied to understanding the impact of extrinsic emotion regulation within the workplace (e.g., team cohesion, leadership training, etc.), and in other interpersonal contexts (e.g., family, friendship, etc.). While much of the research on extrinsic emotion regulation has typically focused on the regulator (e.g., Coo et al., 2022; Horn et al., 2019; Jarman & Windsor, 2021), our results highlight the importance of including the target. That is, future research could examine the individual differences associated with the target's interpretation of the regulation attempt. For instance, targets with low self-esteem are less receptive to regulation attempts than those with high self-esteem (Marigold et al., 2014). A natural progression of this work is to investigate what influences the target's perspective of a regulation attempt as un/successful, threatening, or positive/negative (e.g., attachment style, personality traits, emotional intelligence). A limitation of the current study is that we did not measure positive or negative affect. Therefore, identifying the role of target and regulator affect (positive/negative) in response to a regulation attempt is vital for understanding how affect relates to overall perceptions of relationship quality, successful regulation, and other useful outcome measures. Finally, as it is not possible to derive causal explanations from this dyadic study, longitudinal research would be beneficial for determining whether the use of extrinsic emotion regulation increases relationship quality, or whether existing relationship quality encourages greater emotional engagement with one's romantic partner.

Conclusion

Taken together, our results demonstrate that it is the target's, rather than the regulator's perspective that is driving the association between extrinsic emotion regulation processes and the relationship quality of both members of the romantic couple. Specifically, expressive suppression does not appear to be an effective regulation process for long-term relationship

quality. In contrast, both target and regulator relationship quality levels are higher when a target feels heard (receptive listening), valued, or that their partner helps them solve a problem (direct action). Overall, these findings add to a growing body of literature that seeks to understand the role of extrinsic emotion regulation not only in romantic relationships but within interpersonal relationships more broadly.

The study was preregistered, and the preregistration is available here

<https://aspredicted.org/blind.php?x=ar22v4>. Study data are available on the Open Science

Framework (OSF; https://osf.io/v9357/?view_only=340b23bed72c482da70ab852bb48e064).

References

- Antonucci, T. C., Lansford, J. E., & Akiyama, H. (2001). Impact of positive and negative aspects of marital relationships and friendship on well-being of older adults. *Applied Developmental Science*, 5, 68–75. https://doi.org/10.1207/S1532480XADS0502_2.
- Bagby, R. M., Rector, N. A., Bindseil, K., Dickens, S. E., Levitan, R. D., & Kennedy, S. H. (1998). Self-report ratings and informants' ratings of personalities of depressed outpatients. *The American Journal of Psychiatry*, 155(3), 437–438. <https://doi.org/10.1176/ajp.155.3.437>
- Barrett, L. F. (2012). Emotions are real. *Emotion*, 12(3), 413–429. <https://doi.org/10.1037/a0027555>
- Bolger, N., & Eckenrode, J. (1991). Social relationships, personality, and anxiety during a major stressful event. *Journal of Personality and Social Psychology*, 61(3), 440–449. <https://doi.org/10.1037/0022-3514.61.3.440>
- Bravo, V., Connolly, J., & McIsaac, C. (2017). Why did it end? Breakup reasons of youth of different gender, dating stages, and ages. *Emerging Adulthood*, 5(4), 230–240. <https://doi.org/10.1177/2167696817700261>
- Butler, E. A. (2015). Interpersonal affect dynamics: It takes two (and time) to tango. *Emotion Review*, 7(4), 336–341. <https://doi.org/10.1177/1754073915590622>
- Butler, E. A., & Gross, J. J. (2009). Emotion and emotion regulation: Integrating individual and social levels of analysis. *Emotion Review*, 1(1), 86–87. <https://doi.org/10.1177/1754073908099131>
- Cann, A., Zapata, C. L., & Davis, H. B. (2009). Positive and negative styles of humor in communication: Evidence for the importance of considering both styles. *Communication Quarterly*, 57, 452–468. <http://10.1080/01463370903313398>
- Carstensen, L. L., Gottman, J. M., & Levenson, R. W. (1995). Emotional behavior in long-term marriage. *Psychology and Aging*, 10(1), 140. <https://doi.org/10.1037/0882-7974.10.1.140>
- Cavallo, J. V., Holmes, J. G., Fitzsimons, G. M., Murray, S. L., & Wood, J. V. (2012). Managing motivational conflict: How self-esteem and executive resources influence self-regulatory responses to risk. *Journal of Personality and Social Psychology*, 103(3), 430–451. <https://doi.org/10.1037/a0028821>
- Connelly, B. S., & Ones, D. S. (2010). An other perspective on personality: Meta-analytic integration of

- observers' accuracy and predictive validity. *Psychological Bulletin*, 136(6), 1092–1122. <https://doi.org/10.1037/a0021212>
- Coo, S., García, M. I., Prieto, F., & Medina, F. (2022). The role of interpersonal emotional regulation on maternal mental health. *Journal of Reproductive and Infant Psychology*, 40(1), 3-21.
- Côté, S. (2005). A Social Interaction Model of the Effects of Emotion Regulation on Work Strain. *The Academy of Management Review*, 30(3), 509–530. <https://doi.org/10.2307/20159142>
- Dixon-Gordon, K. L., Bernecker, S. L., & Christensen, K. (2015). Recent innovations in the field of interpersonal emotion regulation. *Current Opinion in Psychology*, 3, 36-42. <https://doi.org/10.1016/j.copsyc.2015.02.001>
- Emery, L. F., Gardner, W. L., Carswell, K. L., & Finkel, E. J. (2021). Who are “we”? Couple identity clarity and romantic relationship commitment. *Personality and Social Psychology Bulletin*, 47(1), 146–160. <https://doi.org/10.1177/0146167220921717>
- Fenning, R. M., Baker, J. K., & Moffitt, J. (2018). Intrinsic and extrinsic predictors of emotion regulation in children with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 48(11), 3858-3870.
- Fletcher, G. J., Simpson, J. A., Campbell, L., & Overall, N. C. (2015). Pair-bonding, romantic love, and evolution the curious case of homo sapiens. *Perspectives on Psychological Science*, 10, 20–36. <https://doi.org/10.1177/1745691614561683>
- Ford, B. Q., & Gross, J. J. (2019). Why beliefs about emotion matter: An emotion-regulation perspective. *Current Directions in Psychological Science*, 28(1), 74–81. <https://doi.org/10.1177/0963721418806697>
- Fredrickson, B. L., & Levenson, R. W. (1998). Positive emotions speed recovery from the cardiovascular sequelae of negative emotions. *Cognition & Emotion*, 12, 191–220. <https://doi.org/10.1080/026999398379718>
- Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General Psychology*, 2(3), 271-299. <https://doi.org/10.1037/1089-2680.2.3.271>
- Gross, J. J. (2002). Emotion regulation: Affective, cognitive, and social consequences. *Psychophysiology*, 39(3), 281-291. <https://doi.org/10.1017/S0048577201393198>

- Gross, J. J. (2008). Emotion regulation. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions* (pp. 497–512). The Guilford Press.
- Gross, J. J. (2015). The extended process model of emotion regulation: Elaborations, applications, and future directions. *Psychological Inquiry*, 26(1), 130-137.
<https://doi.org/10.1080/1047840X.2015.989751>
- Gustafsson, J.-E., & Balke, G. (1993). General and specific abilities as predictors of school achievement. *Multivariate Behavioral Research*, 28(4), 407–434. https://doi.org/10.1207/s15327906mbr2804_2
- Hendrick, S. S. (1988). A generic measure of relationship satisfaction. *Journal of Marriage and the Family*, 93-98. <https://doi.org/10.2307/352430>
- Hofmann, S. G. (2014). Interpersonal emotion regulation model of mood and anxiety disorders. *Cognitive Therapy and Research*, 38(5), 483-492.
- Horn, A. B., Samson, A. C., Debrot, A., & Perez, M. (2019). Positive humor in couples as interpersonal emotion regulation: A dyadic study in everyday life on the mediating role of psychological intimacy. *Journal of Social and Personal Relationships*, 36(8), 2376-2396.
- Hu, L.-t., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>
- Ickes, W., Stinson, L., Bissonnette, V., & Garcia, S. (1990). Naturalistic social cognition: Empathic accuracy in mixed-sex dyads. *Journal of Personality and Social Psychology*, 59(4), 730–742. <https://doi.org/10.1037/0022-3514.59.4.730>
- Impett, E. A., Kogan, A., English, T., John, O., Oveis, C., Gordon, A. M., & Keltner, D. (2012). Suppression sours sacrifice: Emotional and relational costs of suppressing emotions in romantic relationships. *Personality and Social Psychology Bulletin*, 38(6), 707–720. <https://doi.org/10.1177/0146167212437249>
- Jarman, R. E., & Windsor, T. D. (2021). “Calm Down,” “Cheer Up”: How Age Influences the Way We Manage Emotion in Social Partners. *Research on Aging*, 43(2), 74-84.
- JASP Team (2022). JASP (Version 0.16.3)[Computer software].

- Joel, S., Eastwick, P. W., Allison, C. J., Arriaga, X. B., Baker, Z. G., Bar-Kalifa, E., ... & Wolf, S. (2020). Machine learning uncovers the most robust self-report predictors of relationship quality across 43 longitudinal couples studies. *Proceedings of the National Academy of Sciences*, 117(32), 19061–19071.
- Keltner, D., & Haidt, J. (2001). Social functions of emotions. In T. J. Mayne & G. A. Bonanno (Eds.), *Emotions: Current Issues and Future Directions* (pp. 192–213). Guilford Press.
- Keltner, D., & Kring, A. M. (1998). Emotion, social function, and psychopathology. *Review of General Psychology*, 2(3), 320–342. <https://doi.org/10.1037/1089-2680.2.3.320>
- Kiel, E. J., Price, N. N., & Premo, J. E. (2020). Maternal comforting behavior, toddlers' dysregulated fear, and toddlers' emotion regulatory behaviors. *Emotion*, 20(5), 793.
- Kinkead, A., Sanduvete-Chaves, S., Chacón-MoscOSO, S., & Salas, C. E. (2021). Couples extrinsic emotion regulation questionnaire: Psychometric validation in a Chilean population. *Plos One*, 16(6), e0252329. <https://doi.org/10.1371/journal.pone.0252329>
- Kline, R. B. (2015). Principles and practice of structural equation modeling. Guilford.
- Kurtz, L. E., & Algoe, S. B. (2015). Putting laughter in context: Shared laughter as behavioral indicator of relationship well-being. *Personal Relationships*, 22(4), 573–590. <https://doi.org/10.1111/pere.12095>
- Lench, H. C., Tibbett, T. P., & Bench, S. W. (2016). Exploring the toolkit of emotion: What do sadness and anger do for us? *Social and Personality Psychology Compass*, 10(1), 11–25. <https://doi.org/10.1111/spc3.12229>
- Levenson, R. W., Haase, C. M., Bloch, L., Holley, S. R., & Seider, B. H. (2014). Emotion regulation in couples. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 267–283). The Guilford Press
- Little, L. M., Kluemper, D., Nelson, D. L., & Gooty, J. (2012). Development and validation of the Interpersonal Emotion Management Scale. *Journal of Occupational and Organizational Psychology*, 85(2), 407–420. <https://doi.org/10.1111/j.2044-8325.2011.02042.x>
- MacCann, C., Olderback, S., Austin, E., Pinkus, R.T., Double, K.S., Walker, S.A., Kunst, H., & Niven, K. (2019) What do we do to help others feel better? Eight extrinsic emotion regulation processes linked to affective and interpersonal outcomes. [Conference session]. Australasian Congress for

Personality & Individual Differences, Bond University, QLD, Australia.

- Marigold, D. C., Cavallo, J. V., Holmes, J. G., & Wood, J. V. (2014). You can't always give what you want: The challenge of providing social support to low self-esteem individuals. *Journal of Personality and Social Psychology*, 107(1), 56–80. <https://doi.org/10.1037/a0036554>
- McNulty, J. K., Meltzer, A. L., Neff, L. A., & Karney, B. R. (2021). How both partners' individual differences, stress, and behavior predict change in relationship satisfaction: Extending the VSA model. *Proceedings of the National Academy of Sciences*, 118(27). <https://doi.org/10.1073/pnas.2101402118>
- Murray, S. L., Holmes, J. G., & Griffin, D. W. (1996). The benefits of positive illusions: Idealization and the construction of satisfaction in close relationships. *Journal of Personality and Social Psychology*, 70(1), 79.
- Murray, S. L., Holmes, J. G., & Griffin, D. W. (1996). The self-fulfilling nature of positive illusions in romantic relationships: love is not blind, but prescient. *Journal of Personality and Social Psychology*, 71(6), 1155.
- Murray, S. L., Rose, P., Bellavia, G. M., Holmes, J. G., & Kusche, A. G. (2002). When rejection stings: How self-esteem constrains relationship-enhancement processes. *Journal of Personality and Social Psychology*, 83(3), 556–573. <https://doi.org/10.1037/0022-3514.83.3.556>
- Nils, F., & Rimé, B. (2012). Beyond the myth of venting: Social sharing modes determine the benefits of emotional disclosure. *European Journal of Social Psychology*, 42, 672–681. <https://doi.org/10.1002/ejsp.1880>
- Niven, K., Macdonald, I., & Holman, D. (2012). You spin me right round: Cross-relationship variability in interpersonal emotion regulation. *Frontiers in Psychology*, 3, 394. <https://doi.org/10.3389/fpsyg.2012.00394>
- Niven, K., Totterdell, P., & Holman, D. (2009). A classification of controlled interpersonal affect regulation strategies. *Emotion*, 9(4), 498–509. <https://doi.org/10.1037/a0015962>
- Niven, K., Garcia, D., Löwe, I. V. D., Holman, D., & Mansell, W. (2015). Becoming popular: Interpersonal emotion regulation predicts relationship formation in real life social networks. *Frontiers in Psychology*, 6, 1452. <https://doi.org/10.3389/fpsyg.2015.01452>

Nozaki, Y., & Mikolajczak, M. (2020). Extrinsic emotion regulation. *Emotion*, 20(1), 10-15.

<https://doi.org/10.037/emo0000636>

Pateraki, E., & Roussi, P. (2013). Marital quality and well-being: The role of gender, marital duration, social support and cultural context. *A Positive Psychology Perspective on Quality of Life: Social Indicators Research Series*, 51, 125–145. https://doi.org/10.1007/978-94-007-4963-4_8.

Pauw, L. S., Sauter, D. A., Van Kleef, G. A., & Fischer, A. H. (2018). Sense or sensibility? Social sharers' evaluations of socio-affective vs. cognitive support in response to negative emotions. *Cognition and Emotion*, 32, 1247-1264. <https://doi.org/10.1080/02699931.2017.1400949>

Proulx, C. M., Helms, H. M., & Buehler, C. (2007). Marital quality and personal well-being: A meta-analysis. *Journal of Marriage and Family*, 69(3), 576–593. <https://doi.org/10.1111/j.1741-3737.2007.00393.x>

Reeck, C., Ames, D. R., & Ochsner, K. N. (2016). The social regulation of emotion: An integrative, cross-disciplinary model. *Trends in Cognitive Sciences*, 20(1), 47–63. <https://doi.org/10.1016/j.tics.2015.09.003>

Reise, S. P., Scheines, R., Widaman, K. F., & Haviland, M. G. (2013). Multidimensionality and structural coefficient bias in structural equation modeling: A bifactor perspective. *Educational and Psychological Measurement*, 73(1), 5–26. <https://doi.org/10.1177/0013164412449831>

Rimé, B. (2007). The social sharing of emotion as an interface between individual and collective processes in the construction of emotional climates. *Journal of Social Issues*, 63(2), 307–322. <https://doi.org/10.1111/j.1540-4560.2007.00510.x>

Rusbult, C. E., & Van Lange, P. A. M. (2003). Interdependence, interaction and relationships. *Annual Review of Psychology*, 54, 351–375. <https://doi.org/10.1146/annurev.psych.54.101601.145059>

Rusu, P. P., Bodenmann, G., & Kayser, K. (2019). Cognitive emotion regulation and positive dyadic outcomes in married couples. *Journal of Social and Personal Relationships*, 36(1), 359-376. <https://doi.org/10.1177/0265407517751664>

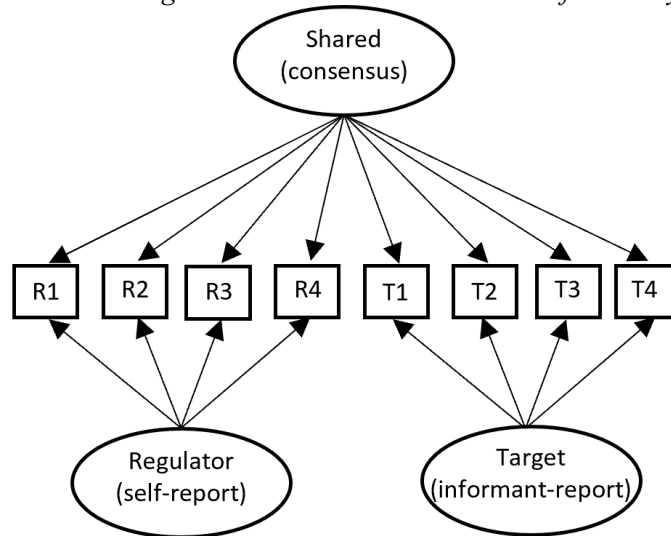
Schwarz, N., & Clore, G. L. (1983). Mood, misattribution, and judgments of well-being: Informative and directive functions of affective states. *Journal of Personality and Social Psychology*, 45(3), 513–523. <https://doi.org/10.1037/0022-3514.45.3.513>

- Seehausen, M., Kazzer, P., Bajbouj, M., & Prehn, K. (2012). Effects of empathic paraphrasing—extrinsic emotion regulation in social conflict. *Frontiers in Psychology*, 3, 482.
<https://doi.org/10.3389/fpsyg.2012.00482>
- Soper, D.S. (2022). A-priori Sample Size Calculator for Structural Equation Models [Software]. Available from <https://www.danielsoper.com/statcalc>
- Strick, M., Holland, R. W., van Baaren, R. B., & Van Knippenberg, A. D. (2009). Finding comfort in a joke: Consolatory effects of humor through cognitive distraction. *Emotion*, 9, 574–578.
<https://10.1037/a0015951>
- Tamminen, K. A., Page-Gould, E., Schellenberg, B., Palmateer, T., Thai, S., Sabiston, C. M., & Crocker, P. R. E. (2019). A daily diary study of interpersonal emotion regulation, the social environment, and team performance among university athletes. *Psychology of Sport and Exercise*, 45, Article 101566. <https://doi.org/10.1016/j.psychsport.2019.101566>
- Tanna, V. J., & MacCann, C. (2022). I know you so I will regulate you: Closeness but not target's emotion type affects all stages of extrinsic emotion regulation. *Emotion*. Advance online publication. <https://doi.org/10.1037/emo0001073>
- Voss, K., Markiewicz, D., & Doyle, A. B. (1999). Friendship, marriage and self-esteem. *Journal of Social and Personal Relationships*, 16(1), 103-122. <https://doi.org/10.1177/0265407599161006>
- Walker, S.A., Pinkus, R.T., Olderbak, S.G., & MacCann, C. (2022). People with higher relationship satisfaction use more humor, valuing, and receptive listening to regulate their partners' emotions. Under Review.
- Westland, J.C. (2010). Lower bounds on sample size in structural equation modeling. *Electronic Commerce Research and Applications*, 9(6), 476-487.
<https://doi.org/10.1016/j.elerap.2010.07.003>
- Wheeler, L., & Miyake, K. (1992). Social comparison in everyday life. *Journal of Personality and Social Psychology*, 62(5), 760–773. <https://doi.org/10.1037/0022-3514.62.5.760>
- Whisman, M. A. (2007). Marital distress and DSM-IV psychiatric disorders in a population-based national survey. *Journal of Abnormal Psychology*, 116(3), 638. <https://doi.org/10.1037/0021-843X.116.3.638>

- Wieselquist, J., Rusbult, C. E., Foster, C. A., & Agnew, C. R. (1999). Commitment, Pro-Relationship Behavior, and Trust in Close Relationships. 25
- Williams, W. C., Morelli, S. A., Ong, D. C., & Zaki, J. (2018). Interpersonal emotion regulation: Implications for affiliation, perceived support, relationships, and well-being. *Journal of Personality and Social Psychology*, 115(2), 224. <https://doi.org/1037/pspi0000132>
- Xiao, H., Double, K. S., Walker, S. A., Kunst, H., & MacCann, C. (2022). Emotionally Intelligent People Use More High-Engagement and Less Low-Engagement Processes to Regulate Others' Emotions. *Journal of Intelligence*, 10(4), 76.
- Zaki, J., & Williams, W. C. (2013). Interpersonal emotion regulation. *Emotion*, 13(5), 803–810. <https://doi.org/10.1037/a0033839>
- Zaki, J., Bolger, N., & Ochsner, K. (2008). It takes two: The interpersonal nature of empathic accuracy. *Psychological Science*, 19(4), 399–404. <https://doi.org/10.1111/j.1467-9280.2008.02099.x>

Figure 3.

Bifactor model of extrinsic emotion regulation. Error terms are omitted for clarity.

**Figure 4.**

Bifactor model of extrinsic emotion regulation processes (left) predicting self-reported regulator and target relationship quality. Dashed arcs represent correlations among outcome variables. Eight separate models were tested, one for each ROES process. Error terms are omitted for clarity.

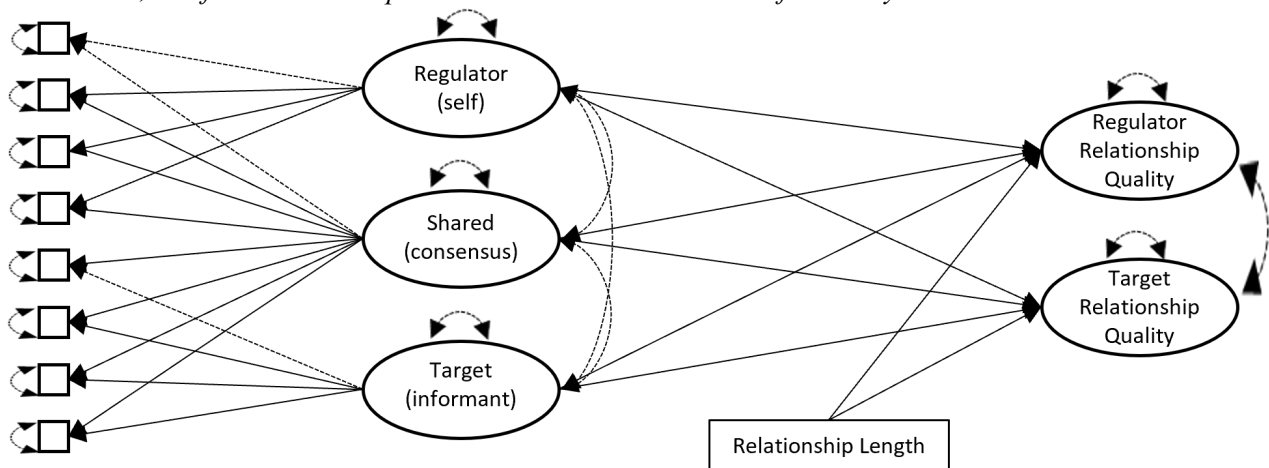


Table 8.*Descriptive Statistics and Correlations*

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Expressive suppression (SR)	2.48	1.20	<i>.84</i>																	
2. Expressive suppression (IR)	2.43	1.25	.52	<i>.84</i>																
3. Downward comparison (SR)	3.24	1.27	.63	.36	<i>.88</i>															
4. Downward comparison (IR)	3.02	1.25	.36	.64	.40	<i>.89</i>														
5. Humor (SR)	4.36	1.13	.19	.14	.18	<i>.10</i>	<i>.90</i>													
6. Humor (IR)	3.96	1.27	.21	.18	<i>.10</i>	.24	.50	<i>.93</i>												
7. Distraction (SR)	4.19	0.81	.46	.24	.40	.25	.51	.26	<i>.75</i>											
8. Distraction (IR)	4.13	0.91	.23	.35	.18	.50	.29	.58	.35	<i>.84</i>										
9. Direct action (SR)	4.20	0.95	.35	.22	.30	.22	.39	.24	.48	.29	<i>.84</i>									
10. Direct action (IR)	3.99	1.05	.16	.26	<i>.07</i>	.32	.19	.50	.20	.60	.29	<i>.86</i>								
11. Positive reappraisal (SR)	4.32	0.87	.31	.16	.34	.21	.36	.21	.51	.32	.49	.23	<i>.84</i>							
12. Positive reappraisal (IR)	4.14	0.97	.14	.25	<i>.06</i>	.39	.18	.39	.19	.65	.19	.56	.33	<i>.89</i>						
13. Receptive listening (SR)	5.05	0.78	-.02	<i>.00</i>	<i>.04</i>	<i>.07</i>	.35	.20	.34	.21	.35	.18	.44	.23	<i>.84</i>					
14. Receptive listening (IR)	4.88	0.92	<i>.00</i>	-.04	-.05	<i>.05</i>	.13	.38	.15	.42	.15	.45	.16	.52	.30	<i>.90</i>				
15. Valuing (SR)	4.89	1.01	<i>.07</i>	<i>.09</i>	<i>.06</i>	<i>.07</i>	.40	.23	.35	.23	.41	.20	.34	.17	.54	.26	<i>.93</i>			
16. Valuing (IR)	4.70	1.16	<i>.06</i>	<i>.08</i>	<i>.02</i>	.18	.23	.43	.13	.41	.26	.52	.18	.47	.31	.63	.50	<i>.93</i>		
17. Relationship quality (Regulator)	50.00	8.65	-.07	-.05	-.04	<i>.02</i>	.23	.22	<i>.06</i>	.24	.21	.28	<i>.09</i>	.19	.25	.26	.39	.40	—	
18. Relationship quality (Target)	50.00	8.73	-.05	-.06	-.04	<i>.07</i>	.17	.36	<i>.08</i>	.36	.19	.50	.20	.46	.30	.57	.36	.66	.62	—
19. Relationship length	10.87	8.56	-.01	-.05	<i>.06</i>	<i>.02</i>	-.22	-.14	-.04	-.06	-.12	-.05	-.12	-.08	-.24	-.12	-.26	-.15	-.16	-.09

Note. *N* = 395 dyads. Correlations in bold are statistically significant ($p < .01$). Cronbach's alphas are in *italics* on the diagonal. SR = Self-report; IR = Informant-report.

Table 9.*Model Fit Statistics for Bi-factor Structural Equation Models*

ROES Model	<i>Y-B</i> χ^2 (<i>df</i>)	CFI	SRMR	RMSEA
Expressive Suppression	124.77 (33)	.938	.111	.089 [.074, .105]
Downward Comparison	50.96 (33)	.989	.061	.041 [.020, .060]
Humor	99.97 (33)	.971	.125	.077 [.061, .093]
Distraction	103.75 (34)	.938	.060	.078 [.063, .094]
Direct Action	75.28 (33)	.972	.097	.061 [.044, .077]
Positive Reappraisal	40.88 (34)	.993	.057	.030 [.000, .050]
Receptive Listening	90.87 (33)	.961	.110	.078 [.062, .094]
Valuing	76.98 (34)	.981	.075	.067 [.051, .083]

Note. $N = 395$ dyads. *Y-B* χ^2 = Yuan-Bentler scaled χ^2 (Yuan & Bentler, 2000). CFI = comparative fit index; SRMR = Standardized root mean square residual; RMSEA = root mean square error of approximation [90% confidence interval]. All models were estimated in JASP 0.16.3 (JASP Team, 2022) using procedures for robust maximum likelihood estimation. Small negative loadings were constrained to zero for all models.

Table 10.*First-Level Factor Loadings on the Target and Regulator Factors*

Item	Self-Report		Informant-Report	
	λ_{Shared}	λ_{Regul}	λ_{Shared}	λ_{Target}
<i>Expressive Suppression</i>				
I ask them to put a brave face on	.52	.59	.53	.66
I tell them to 'turn that frown upside-down'	.63	.51	.64	.54
I ask them not to look so irritated	.41	.59	.28	.65
I tell them not to frown or cry	.66	.55	.63	.49
Average Loading	.55	.56	.52	.58
<i>Downward Comparison</i>				
I compare their situation to other people who are worse off	.62	.66	.55	.69
I help them to see how lucky they are compared to others	.68	.43	.47	.51
I tell them that things could be a lot worse.	.60	.42	.51	.59
I talk about people who have even bigger problems	.61	.55	.56	.68
Average Loading	.63	.51	.52	.62
<i>Humor</i>				
I make jokes to make them smile	.64	.64	.64	.67
I say comical, light-hearted things	.61	.57	.63	.63
I act silly to entertain them	.63	.58	.73	.50
I do something amusing	.58	.65	.62	.60
Average Loading	.61	.61	.66	.60
<i>Distraction</i>				
I divert their attention to something else	.61	.82	.30	.75
I help them to focus on other things	.88	.00	.37	.73
I start talking about something more pleasant	.59	.16	.36	.62
I suggest something else for them to do	.49	.14	.25	.71
Average Loading	.64	.28	.32	.70
<i>Direct Action</i>				
I try to fix things for them	.28	.79	.14	.77
I do what I can to find an answer for them	.91	.40	.09	.77
I take action to change their situation	.29	.79	.12	.80
I try to modify their situation	.22	.69	.06	.76
Average Loading	.42	.67	.10	.78
<i>Positive Reappraisal</i>				
I discuss different ways of interpreting the situation	.82	.08	.34	.79
I help them to change the way they think about their problems	.65	.75	.28	.74
I discuss other ways that they could interpret events	.71	.86	.30	.78
I help them see events in a new way	.87	.00	.37	.71
Average Loading	.76	.42	.32	.75
<i>Receptive Listening</i>				
I let them talk to me about their troubles	.61	.44	.16	.87
I allow them to vent their emotions	.53	.58	.18	.85
I listen to them talk about their emotions	.57	.52	.07	.83

Item	Self-Report		Informant-Report	
	λ Shared	λ Regul	λ Shared	λ Target
I help them to let off steam by talking to me	1.00	.00	.17	.83
Average Loading	.68	.38	.14	.85
<i>Valuing</i>				
I tell them they are very important to me	.86	.86	.50	.75
I let them know how much they mean to me	.90	.03	.46	.79
I tell them how much I value them	.89	.06	.50	.72
I make them feel special or cared about	.80	.00	.46	.68
Average Loading	.86	.24	.48	.73

Table 11.

Fully Standardized Path Estimates for Shared, Regulator, and Target Perspective Bifactor Models of the Regulation of Others' Emotions Processes Association with Relationship Quality

Model	Relationship Quality - Target			Relationship Quality - Regulator		
	Shared	Target	Regulator	Shared	Target	Regulator
Expressive Suppression	.40 (.85) [1.78,5.10]	-.40 (.84) [-5.08,-1.78]	-.47 (.97) [-5.89,-2.08]	.30 (.81) [1.03,4.20]	-.31 (.80) [-4.36,-1.11]	-.40 (.91) [-5.27,-1.67]
Downward Comparison	-.01 (.51) [-1.06,.94]	.08 (.45) [-.52,1.24]	-.02 (.56) [-1.20,1.02]	-.16 (.53) [.33,-.16]	.15 (.48) [-.28,1.58]	.15 (.58) [-.48,1.79]
Humor	.15 (.96) [-.55,3.20]	.40 (.98) [1.54,5.40]	.08 (.95) [-1.21,2.51]	.19 (.93) [-.15,3.51]	.13 (.98) [-.79,3.05]	.14 (.94) [-.06,3.08]
Distraction	.13 (.49) [.19,2.10]	.39 (.46) [2.52,4.30]	.02 (.42) [-.62,1.02]	.14 (.49) [.25,2.16]	.23 (.47) [1.07,2.92]	-.01 (.44) [-.97,.74]
Direct Action	.10 (.46) [-.03,1.77]	.52 (.41) [3.69,5.32]	.03 (.43) [-.60,1.07]	.10 (.49) [-.09,1.83]	.25 (.45) [1.30,3.05]	.13 (.47) [.18,2.03]
Positive Reappraisal	.20 (.47) [.85,2.67]	.44 (.42) [3.01,4.67]	.06 (.34) [-.19,1.14]	.08 (.47) [-.23,1.61]	.17 (.46) [.56,2.37]	.01 (.37) [-.63,.83]
Receptive Listening	.23 (.45) [1.11,2.89]	.59 (.38) [4.42,5.90]	.08 (.44) [-.18,1.53]	.15 (.44) [.41,2.12]	.22 (.43) [1.03,2.72]	.18 (.51) [.52,2.51]
Valuing	.39 (.43) [2.49,4.19]	.54 (.36) [3.96,5.39]	-.04 (.21) [-.72,.10]	.40 (.43) [2.58,4.28]	.22 (.42) [1.06,2.71]	-.02 (.25) [-.67,.31]

Note. $N = 395$. Path estimates in **bold** are statistically significant ($p < .05$). Standard errors for path estimates are reported in parentheses, with 95% confidence intervals reported in []. All models were estimated in JASP 0.16.3 (JASP Team, 2022) using procedures for robust maximum likelihood estimation.

Chapter 5: Discussion and Conclusion

5.1 Chapter overview

The aim of this final chapter is to integrate the results from the previous three chapters on how the attachments we form in adulthood relate to our emotional intelligence and how the way we regulate our partners' emotions links to the satisfaction and quality of romantic relationships. This thesis examined the extent to which adult attachment relates to emotional intelligence, how people in romantic relationships attempt to regulate their partner's emotions (regulator), and how those attempts are perceived by the partner (target). Three research aims were outlined in Chapter 1. The first research aim of this thesis is the relationship between adult attachment and emotional intelligence (*ability* and *trait* emotional intelligence). The second research aim was to examine the extent to which people used eight regulation strategies (expressive suppression, downward comparison, distraction, direct action, humour, positive reappraisal, receptive listening, and valuing) to regulate their romantic partner's emotions and their association with relationship satisfaction. The third and final research aim was to examine the extent to which romantic partners agree on which extrinsic emotion regulation strategies were used and whether this agreement or the unique perspective of each person is the strongest predictor of relationship quality.

In the paragraphs below, I summarise the findings of Studies 1 to 3 in more detail, pointing out some of the applications of the current research. Applications include incorporating extrinsic emotion regulation into clinical practice (e.g., couples' therapy) as well as educational applications (e.g., teaching social skills to children in schools, or anti-bullying programs), and workplace applications (e.g., in leadership training). Future research will also discuss the directions for further developing extrinsic emotion regulation's theoretical and methodological components. Overall, the findings from this thesis suggest new avenues for exploring the strategies romantic couples use to make each other feel better.

This research has the potential to deepen our understanding of the mechanisms underlying relationship satisfaction and quality and could also inform practical applications in areas such as couples therapy and relationship counseling. This research also highlights existing gaps in our understanding of the role of adult attachment and emotional intelligence, the links between relationship outcomes and the role of extrinsic emotion regulation within romantic relationships. Specifically, the methodological and statistical approach used in Chapter 4 to consider the role of the regulator and the perception of the target offers a novel opportunity to examine the complexity of emotion in romantic relationships and provides a foundation to explore these complexities across a broad range of interpersonal relationships.

5.2 Research Summary

5.2.1 Adult Attachment and Emotional Intelligence

The first aim of this thesis was to examine the associations between adult attachment and emotional intelligence by meta-analysing the existing research. Table 12 presents a summary of the findings from Chapter 2. Broadly, attachment was related to both ability and trait emotional intelligence. However, effects were stronger for trait than ability emotional intelligence (significantly so for attachment avoidance). For example, trait (but not ability) emotional intelligence was positively associated with attachment security, and both trait and ability emotional intelligence were negatively related to the dimensions of anxious and avoidant attachment. Only trait emotional intelligence was negatively related to fearful and preoccupied, but both ability and trait emotional intelligence were unrelated to dismissive and dependent attachment styles.

Table 12.

Summary of significant associations between adult attachment and emotional intelligence (Ability and Trait).

Attachment	Trait emotional intelligence	Ability emotional intelligence
Anxious	- -	- -
Avoidant	- - - -	- -
Secure	+ + +	
Fearful	- -	
Preoccupied	-	

Note. Direction marked as negative (-) or positive (+) with effect size marked as +, ++, +++, or ++++ for small, small-to-moderate, moderate, and moderate-to-large effects, respectively (based on r values of .10, .30, and .50 for small, medium and large).

The associations identified in Chapter 2 (see Table X) between attachment security and emotional intelligence is intuitive, given that emotional bonds and relationship skills influence the development of both attachment (Fraley & Shaver, 2021; Saarni, 1993) and emotional intelligence (Denham, 1998; Szczesniak & Tulecka, 2020), with these foundations laid in early childhood. The finding that anxious and avoidant attachment were negatively related to both trait and ability emotional intelligence is similarly intuitive, with prior longitudinal research demonstrating affective deficits in early life tend to be prototypical of adult relationships (Denham et al., 2002). Individuals who tend toward avoidant attachment had lower emotional intelligence, consistent with Stevens (2014) who found avoidant attachment was related to limited insight into one's emotional competencies. The typical characteristics captured within each attachment dimension and style generally reference the emotional bond formed with an attachment figure, with this meta-analysis providing additional evidence that a disparity in emotional intelligence is observed when a particular attachment insecurity is present.

Attachment has been linked to important outcomes in romantic relationships, including the strategies people use to regulate their own emotions (intrinsic emotion

regulation; Pascuzzo et al., 2013). However, despite the obvious conceptual links, research has not yet addressed whether attachment also relates to the strategies people might use to regulate a partner's emotions. For example, people with high attachment avoidance overestimate the degree to which a partner is feeling negative emotions (Overall et al., 2015). Given that people use different strategies to regulate high-intensity versus low-intensity emotions (Mathews et al., 2021) this would logically affect how such people would respond to their partner's emotions. High-avoidance individuals may be more likely to use distraction and less likely to use positive reappraisal or receptive listening. Future research exploring the extent to which adult attachment relates to the deployment of extrinsic emotion regulation strategies in romantic relationships would extend earlier work done within the intrinsic framework. Furthermore, understanding the motivations behind *why* people deploy specific extrinsic regulation strategies may provide additional insights for individuals hoping to improve their romantic relationships.

In sum, study 1 (Chapter 2) examined how emotional intelligence (a quality of the person) is linked to adult attachment (the emotion bonds a person has toward their partner). But this does not describe how people behave toward their partners emotionally – the specific things they do. One way to conceptualise how couples treat each other emotionally is in terms of extrinsic emotion regulation strategies – the strategies that one partner uses when attempting to regulate the emotional experience of their partner. Studies 2 and 3 (Chapters 3 and 4) examine these strategies considering how they are linked with relationship satisfaction and quality.

5.2.2 Extrinsic Emotion Regulation and Romantic Relationships

The second aim (Chapter 3) of this thesis was to examine the extent to which the strategies used to regulate the emotions of one's romantic partner were associated with relationship satisfaction. The third aim (Chapter 4) was to examine the extent to which the

unique perspective of the regulator (I do to partner) and the target (partner does to me) relates to relationship quality. Different extrinsic emotion regulation strategies were important for different outcomes. For instance, regulators who reported using humour, receptive listening, and valuing when attempting to influence the emotional experience of their romantic partner reported higher relationship satisfaction (Chapter 3). Those who reported using direct action, and receptive listening reported higher relationship quality. Still, the regulator's use of expressive suppression resulted in a lower assessment of the regulator and target's relationship quality (Chapter 4).

The results from Chapter 4 showed that valuing, humor, and receptive listening were the most important predictors of relationship satisfaction, although the other five processes did not significantly predict relationship satisfaction. These results suggest that individuals who use valuing, humour, and receptive listening to regulate their partner's emotions are more likely to experience greater relationship satisfaction. Importantly, it is not possible to derive causation from this study. Whether those who are already satisfied in their relationship use strategies that involve greater engagement with their partner, or whether using more high-engagement strategies to regulate one's partner leads to increased relationship satisfaction is unclear and requires further research.

One strategy performed consistently across Chapters 3 and 4: receptive listening. Listening to one's partner was an important strategy not only from the perspective of the regulator but also the person being regulated. When individuals actively listen to their partner, they not only help regulate their partner's emotions but may also show they care about their partner's emotional experience, thus fostering deeper trust and intimacy in the relationship. Likewise, the target reports better relationship quality when they feel listened to. Such engagement may be an important factor in strengthening the attachment bonds between partners. Consequently, receptive listening is a valuable regulation strategy and an essential

component of building and maintaining positive relationships.

Surprisingly, despite prior research indicating that a regulator is likely to feel more positive affect following a regulation attempt (Niven et al., 2012), results from Chapter 4 indicate that the regulator's unique perspective was generally not driving either their own, or their target's assessment of relationship quality. The key exception was expressive suppression. The more the regulator reported using expressive suppression, the lower the ratings of relationship quality for both the regulator and the target. This may seem unsurprising given that the use of expressive suppression has generally been linked to poorer outcomes in romantic relationships (Sasaki et al., 2021). However, a closer look at the results from Chapter 4 indicate that when the regulator and the target agree that expressive suppression was used, then there is a positive association with both the regulator and target's assessment of relationship quality. It may be that both partners recognise the use of expressive suppression as part of their relationship dynamic and therefore beneficial to their relationship. The negative association between the unique target and regulator reports of expressive suppression and their respective assessment of relationship quality may suggest that their individual perceptions of expressive suppression do not align, leading to lower assessments of relationship quality. Whether this stems from the target's misinterpretation of the regulators intention is unclear from these results. Additionally, the bifactor model used in Chapter 4 allows for a more nuanced approach by separating the shared and unique variance afforded by the self- and informant-report dyadic design than is afforded by the design and analyses in Chapter 3. This underscores the importance of considering the perspectives of both the regulator and target/s when assessing extrinsic emotion regulation.

In Chapter 4, the regulator's perspective showed few significant associations with relationship quality (either regulator-rated or target-rated). In contrast, the target tells a different, and compelling story. When the target was asked to provide informant-report

ratings of what the regulator did to try and make them feel better, the resulting associations with relationship quality were vastly different from those observed from the regulator's perspective. For instance, when the target perceived the regulator had reported using humour, distraction, direct action, positive reappraisal, receptive listening, and valuing to regulate their emotions, the target reported higher relationship quality. This suggests that using these strategies in a relationship is linked with better relationship functioning. This is consistent with prior research demonstrating that when a target feels positively about a regulation attempt, it tends to result in the development and maintenance of high-quality relationships (Niven et al., 2012; Schwarz & Clore, 1983).

In contrast, there was a strong negative association between the target's perception of expressive suppression and their own, and their partner's (regulator) ratings of relationship quality. A regulator may be genuinely attempting to make their partner feel better by suggesting they *put a smile on the dial*, but instead of seeing this as a positive regulation strategy, the target may construe the use of expressive suppression negatively resulting in lower feelings of relationship quality. Although we cannot assume causality from these results, it is reasonable to suggest that using expressive suppression to regulate one's romantic partner may not have the desired effect and may result in reducing the perceived quality of the relationship from the perspective of both partners.

There are notable differences between Chapters 3 and 4 which merit further evaluation, particularly as they relate to the methodological differences between the two Chapters. The measurement of relationship satisfaction (Chapter 3) and relationship quality (Chapter 4) are not qualitatively the same. Although they both index a measure of how a romantic couple perceive their relationship, Chapter 3 uses a short rating scale measuring relationship satisfaction only, while Chapter 4 uses four rating scales to measure a variety of relationship indices (trust, closeness, satisfaction, and conflict) to create a composite score.

Consequently, Chapter 4 provides a much broader indication of the relationship quality than does the scale used in Chapter 3.

Furthermore, there were difference in the analytic approaches between the two chapters – and this was in part necessitated by the different approached taken in Chapter 3 (self-reported responses) and Chapter 4 (self-report and informant-reported) responses. The use of a dyadic design and structural equation model in Chapter 4 allowed for a more nuanced examination of the complexity among factors than was possible with the results from Chapter 3. This leads to further insight not only into the relationship of extrinsic emotion regulation strategies and overall relationship quality, but also the important differences in the perceptions of both the regulator and the target via the disentanglement of the shared and unique variance between self- and informant-reports thus presenting a more nuanced and precise extension to the results in Chapter 3.

5.2.3 The Importance of Dyadic Design

Overall, the use of self- and informant-report ratings to examine the perspective of both members of the relationship is an important first step in understanding potential factors driving relationship success. Although the regulator makes the effort to regulate the emotions of their romantic partner, it seems the predictor of relationship outcomes has less to do with what the regulator thinks they do, and more to do with what the target perceives. It is possible a target may misinterpret a regulation attempt (e.g., the regulator tries to make the target laugh, and the target perceives this as not taking their emotions seriously). This highlights the importance of effective communication when deploying regulation strategies, as it could be an important factor in how the regulation attempt is perceived. The incongruence between the regulator and target perspectives may predict poor relational outcomes, and impact the extent to which a regulation attempt is deemed successful by both the regulator and target.

Additionally, regulation strategies may be valued differently by each partner, making

it important to understand how each strategy is perceived and the impact of each strategy on relational outcomes. Of course, where there is high agreement (consensus) between the regulator and target, there should be higher reports of relationship quality. Findings from Chapter 4 indicate that where there is target/regulator consensus on the use of expressive suppression, distraction, receptive listening, and valuing, both the target and regulator reported higher levels of relationship quality.

These results highlight the importance of a dyadic design which can provide a richer insight into the dyadic functioning in romantic relationships. Considering mutual influence in romantic relationships (e.g., where the extent to which the level of one's own wellbeing has a long-term effect of the person's romantic partner; Orth et al. 2018), the dyadic design can better capture how the strategies deployed by one partner (the regulator) not only impact their partner (the target), but also feed back into the relationship dynamics which potentially influence the regulator's future behaviour and choice of strategies.

There are multiple ways dyadic data can be analysed depending on the research questions. The dominant approach to analysing dyadic data is the actor-partner interdependence model (APIM), a form of multi-level modeling where individuals are clustered within dyads. While this approach controls for the dependencies between the dyad through clustering, the association itself is not examined as a variable. The advantage of using structural equation (SEM) bifactor models is that it allows the association between actor and partner (regulator and target) to be examined as a specific variable (i.e., the shared perspective). Although I collected reciprocal data from both partners in the relationship, I used only one regulator and one target per dyad. This approach, although not capturing the full nuance of a completely dyadic design, provides a simpler model with which to base future research. Starting with a simpler model provides a framework with which to first understand the potential of using an SEM bifactor model to analyse relationship data which

has typically been examined using an APIM or multi-level approach. Were the full reciprocal data set to be used in future research, a multilevel model with a bifactor structural equation model could handle the interdependence of the data, allowing for a more complex exploration of the data than what was presented in Chapter 4.

It is important to note that although a dyadic design provides a rich source of data, it may not always be the best approach and focusing on an individual perspective may also offer valuable insight. For instance, if researchers want to understand the costs and benefits of regulating one's partner's emotions (Cohen & Arbel, 2020; Scheppes, 2020), or examine the extent to which adult attachment relates to regulation strategy choice, or motivation for regulation (Springstein et al., 2023), then a dyadic design is not necessary. However, if wanting to explore the interplay of attachment and regulation choice within a romantic relationship – how the attachment security/insecurity of both partners of a relationship mutually influences extrinsic regulatory processes, then a dyadic design may be the best approach. Deciding between whether to use a dyadic or individual-focused research design should be guided by the aims of the research.

5.3 Limitations

The studies contained within this thesis are not without limitations. The use of cross-sectional correlational methods in each of the three empirical chapters means it is not possible to establish causality or the direction of the relationships I propose in this thesis. To determine causal direction, it may be necessary to use longitudinal methods using structural equation modelling to allow for the reciprocal or causal nature of the association between extrinsic emotion regulation and relationship outcomes to be tested across time points (Selig & Little, 2012).

Specifically, for the meta-analysis in Chapter 2, the development of attachment (Kafetsios & Nezlek, 2002) and emotional intelligence (Kafetsios, 2004) over the life span

may mean the extent to which the included studies in the meta-analysis relied on undergraduate samples with narrow age diversity, make it difficult to generalise these findings to a broader population. Although it is reasonable to expect that the bonds we form in early childhood impact the development of emotional intelligence, it is possible there is ‘causal flow’ in both directions. Future work to determine whether the associations between attachment and emotional intelligence differ under different contexts, alongside research examining a broader population age range would be beneficial.

In Chapters 3 and 4, I used cross-sectional correlational methods which means it is not possible to establish causality or the direction of the relationships between the variables. This is particularly important when it comes to understanding how to implement these findings within clinical practice or training programs. Furthermore, whether it is the rapport and relationship quality between individuals that impacts the extent to which they use specific strategies, how the target perceives those strategies, and how effective the implementation of those strategies are on the target’s emotional state.

Furthermore, the use of self- and informant-report scales merit comment. Although self-report rating scales are the most commonly used method for obtaining information about an individual, prior meta-analytic results show people can distort their responses across a range of personality scales (Viswesvaran & Ones, 1999; Walker et al., 2022; Walker et al., 2023). Informant reports have often been used as an alternate method to both verify the accuracy of self-reports and provide a different perspective about the target of the informant-report (Funder & West, 1993; Vazire, 2010). However, recent research shows that informants can also distort their responses on self-report questionnaires (Walker, 2021; Walker et al., 2023). Given the context of Chapter 3 and 4 where participants were asked to rate what they do to make their partner feel better and then rate their level of relationship satisfaction or relationship quality, it is possible that participants responded in a socially desirable manner to

present themselves as more emotionally supportive of their partner than they actually are. Similarly, the targets were asked to rate their perception of what their partner did to make them feel better. The targets may have rated their partner's regulation attempts more favourably indicative of a leniency effect in their response sets (Cheng et al., 2017). Social desirability represents both a limitation and an opportunity for future research. Future research might examine the extent to which people can, or do distort their responses on relationship satisfaction and extrinsic emotion regulation measures. Specifically, research could explore how these response distortions influence actual relationship satisfaction. For example, does a leniency bias – where an individual consistently reports favourably about the regulation strategies they/their partner uses, or their assessment of relationship satisfaction eventually lead to genuinely higher levels of satisfaction in their relationships, akin to a self-fulfilling prophecy.

5.4 Future Research Directions

The results of this thesis showed that the use of extrinsic emotion regulation strategies in romantic relationships was an important component of relationship functioning – specifically relationship satisfaction, and the evaluation of relationship quality. In particular, this research demonstrates that it is not what the regulator thinks they have done to regulate their partner's emotions that matter most, but rather how the target of the regulation perceives that regulation attempt. Although it is exciting to foresee a myriad of ways to explore these themes further, much more research potentially is needed on the fundamental building blocks of what motivates regulation and why we deploy specific strategies with one person while using other strategies on someone else. Nevertheless, it is possible to anticipate ways in which this research can be used to enhance relationship functioning across a wide variety of relationship types beyond romantic relationships.

There are various possible explorations of novel ideas. First, research could test the

extent to which people learn what strategies are effective with those closest to them through trial and error, using learning paradigms to examine which kinds of feedback produce greater learning (e.g., facial expressions change, verbal affirmations of thanks, etc.). Second, research could use multiple methodologies other than the traditional Likert scales to measure extrinsic emotion regulation, such as open-ended responses, situational judgment testing, coding of behavioural data, or linguistic analysis of social media posts. Third, research could examine the extent to which there are cross-cultural variations in the way people attempt to influence the emotions of others, providing insight into the role of cultural norms and values.

It is important to examine extrinsic emotion regulation in LGBTQ+ relationships, despite the primary focus of this thesis having been on heterosexual relationships. Members of the LGBTQ+ community face numerous stressors, such as discrimination, prejudice, and stigma, all of which can negatively impact their mental and physical health, as well as relationship quality (Pollitt et al., 2023). These stressors may also impact the emotional dynamics within the relationship, potentially leading to relationship dissatisfaction. Therefore, examining diverse relationship contexts improves our comprehension of how emotions manifest in romantic relationships, providing a more inclusive and comprehensive perspective on relationship functioning across various populations.

Gaining a deeper understanding of what underlies how people respond to the regulation attempts of others, the role of the target's personality, the situation appraisals, the emotion valence, and intensity, or why the target thinks the regulator has attempted to make them feel better are all potential future research avenues important for understanding the role of extrinsic emotion regulation in everyday social interactions.

Finally, future research may be interested in examining whether extrinsic emotion regulation is a skill that can be taught and how we can incorporate our understanding of attachment, emotional intelligence, and extrinsic emotion regulation into the process of

developing training paradigms to help build on existing and developing new skills to improve relationship functioning – whether those are close, work, or other types of relationships.

5.4.1 Clinical Applications in Couples Therapy

Research findings such as those in this thesis provide an exciting opportunity for further development of clinical practice – particularly in couples therapy. Understanding how one partner attempts to help their partner feel better and how those attempts are perceived by the partner being regulated can assist the development of therapies or programs to help build deeper communication within relationships. When couples evaluate their relationship positively, they tend to make more repair attempts during conflict (Gottman et al., 2015). Consequently, understanding the dyadic dynamics at play when attempting to regulate one's partner during such times may be crucial for continued and successful relationship functioning. Therapists could tailor interventions to each partner's emotional needs, which could be beneficial for addressing issues related to misinterpretation of regulatory attempts (both strategies used and reasons *why* the regulation attempt occurred) where such misinterpretations may lead to conflict or dissatisfaction in the relationship. It is important to note that further research is needed to distinguish between using extrinsic regulation strategies in different contexts. For example, managing conflict within the relationship may result in using different strategies compared to regulating one's partner's emotions in response to external factors unrelated to the relationship.

5.4.2 Training Programs in the Workplace and Education

Emotions in the workplace are complex and are the focus of research attempting to improve performance relationships, reduce counterproductive behaviours such as bullying, and generally promoting a workplace focused on employee wellbeing (Ashkanazy & Dorris, 2017). A greater understanding of how people try to make others feel better, as explored in this thesis, could help design interventions to improve emotional intelligence and regulation

skills in professional settings. For instance, insights gained from this thesis, although not focused in a work or educational environment, can nevertheless inform the development of programs to enhance emotional intelligence and emotion regulation skills. In education and work contexts, promoting an environment where individuals are encouraged to consider the regulation of others' emotions can lead to improved communication, reduced conflict, and a more supportive environment.

Within the workplace, this could relate to how leaders regulate followers' emotions (Kunst et al., 2022), how teams interact during times of conflict or high stakes project delivery, or how colleagues regulate each other's emotions. Managerial training could focus on the strategies that show the strongest effects in different circumstances, to ensure managers are using effective strategies to increase workers' emotional wellbeing (e.g., discouraging expressive suppression and encouraging reappraisal-based communications). In particular, Chapter 4's findings that the *target's perspective* on how regulation was perceived has important implications for workplace applications—it is critical to communicate intention and to seek feedback on how others perceived regulation attempts. Although prior research examining the extent to which we can train emotional intelligence in the workplace has been somewhat inconsistent, a recent meta-analysis found emotional intelligence training shows moderate gains (Mattingly & Kraiger, 2019). An important limitation of this meta-analysis is that the included studies tended to measure emotional intelligence (ability and rating scales) directly after training with few (if any) reporting longitudinal gains. As such, it may be pertinent to consider that instead of training being focused on the qualities one has (emotional intelligence), training could instead focus on what someone does (intrinsic and extrinsic regulation). Emotional literacy in the workplace goes beyond *just* emotional intelligence. It should include the actions we take to change or influence the emotional experience of others as well as the motives and goals for doing so (Nozaki & Mikolajczak, 2020). Improving the

emotional literacy of workers through targeted training programs could result in a more empathetic and cohesive workforce.

The type and quality of the teacher-student relationship is linked with student performance, engagement, behaviour, and peer relationships. Importantly, how a teacher handles a student's behaviour can have a long-term impact on the student's relationship with their peers (Endedijk et al., 2022; Wu et al., 2010). Consequently, multiple educational interventions focus on developing positive teacher-student relationships (Poling et al., 2022). While studies 3 and 4 address romantic relationship satisfaction and quality, the results may be generalisable to other contexts. Where future research can identify the strategies used in the classroom that represent a strong teacher-student relationship, then there are implications for building or adding to existing teacher training programs. For example, training educators how to use valuing, listening, or humour in the classroom could be an important addition to existing programs or form the basis for exploring the development of new programs.

From an educational perspective, implementing training programs could assist teachers in not only dealing with the big emotions often found in children and adolescents but also providing training on the use of extrinsic emotion regulation strategies that could be beneficial when engaging in difficult conversations with parents that might otherwise lead to increased conflict. Additionally, such training could potentially guide educators in providing an emotionally supportive environment for their colleagues, an important consideration given the high-stress environments they face daily. Although further research is required to understand the complex emotions faced by students, teachers, and parents, implementing these strategies may be beneficial in improving workplace outcomes for teachers, including improving educational outcomes, wellbeing, and reducing burnout in the classroom.

5.4.3 Family Dynamics and Parenting

This research can also extend to family dynamics with further research offering

valuable perspectives on how individuals attempt to regulate others' emotions at the family level. The attachment bonds we form in early childhood tend to be prototypical of interpersonal relationships formed in adulthood, and can influence the child's future use of emotion-regulation strategies (Barthel et al., 2018). During infancy, a child will communicate needs such as hunger or discomfort through crying or cooing, relying on their caregiver to provide emotional support and regulation. Over time, developments in the child's executive function enhances their ability to express their emotions more effectively thus evolving from dependence on caregiver regulation to a more self-sufficient regulatory system further underscoring the significance of the attachment bonds in emotional development (Barthel et al., 2018).

Consequently, understanding these dynamics and how to effectively regulate emotions within the family unit becomes crucial for future relationship functioning. This may be an important step for improving childhood attachment outcomes, bridging the gap between early emotional bonds and interpersonal skills in adulthood. Importantly, further research of extrinsic emotion regulation within families may contribute to building emotionally healthier family relationships where effective emotion regulation can improve a child's emotional development.

5.4.4 Motives of Extrinsic Emotion Regulation

Examining the strategies people use to try and influence the emotional experience of others presents exciting avenues for future research, particularly when we consider the underlying motives. Why do people try to make another person feel better or worse? What are the underlying motives related to why people attempt to change the emotional experience of others. This question is not only relevant in romantic relationships, but across any interpersonal context. This thesis suggests what we do to regulate the emotions of our romantic partner is associated with the quality perception of the relationship – both from the

perspective of the person doing the regulation (the regulator) and the partner being regulated (the target). However, equally important are the reasons why people attempt to regulate others.

The target's perspective is an important factor when considering extrinsic emotion regulation motives and the potential influence on relationship outcomes. The regulator can provide a self-report as to why they regulated their target, but what happens if the regulator's motives and the target's perception of the regulator's motives are not aligned. For example, in the earlier scenario we met Sarah and Liam. If Sarah's motives for trying to make Liam feel better were perceived by Liam as self-serving (i.e., she wants to get on with her task), it may not have the same impact as if they were perceived as genuine care. Over time, if Liam consistently perceived Sarah's attempts as self-serving, would this start to foster dissatisfaction thereby lowering the overall perceived quality of the relationship from Liam's perspective.

To date, no studies have considered the role of regulation motives in romantic relationships. However, Springsetin et al. (2022) found that adult attachment was related to the motives associated with extrinsic emotion regulation. In particular, that attachment anxiety tends to guide the choice of strategies. Additionally, Springstein et al. reported that different motives for extrinsic emotion regulation, such as self- and other focused prohedonic, impression management, and relationship maintenance significantly influenced overall relational interaction outcomes. These results, along with those of Tamir (2020), highlight the motivated nature of emotion regulation. Thus, suggesting the instrumental role motives have in determining the effectiveness of extrinsic emotion regulation. Different motives, such as prohedonic, instrumental, relationship focused or impression management motives may significantly impact relationship outcomes. Accordingly, future research should consider the role of motives in extrinsic emotion regulation, taking into account the variability of

individual extrinsic emotion regulation motives and goals across a broad spectrum of interpersonal contexts.

5.5 Concluding Statements

The focus of this thesis was to examine emotion-related characteristics in close relationships, considering the link between emotional intelligence and adult attachment, and the emotion regulation strategies people use to try and help their partner feel better. Emotions are a fundamental aspect of our everyday lives shaping who we are and the relationships that we form. The role emotions play within romantic relationships is complex relating to the attachment bonds established in early childhood, and the emotional qualities we possess (emotional intelligence). This complexity extends to what we do try to and make our partners feel better. This relates to what extrinsic emotion regulation strategies we use when trying to make our partners feel better and the extent to which these strategies may impact the assessment of various relationship outcome such how satisfied we feel in the relationship, or our assessment of relationship quality.

Although much (but not all) of the existing research has focused on the role of the regulator, this thesis extends prior research not only looking at what the regulator says they do to make their partner (target) feel better, but also the target's perception of the regulation attempt. Overall, it appears the target's, rather than the regulator's perspective, may be driving the relationship between extrinsic emotion regulation strategies and the relationship quality assessed by both member of the couple. Both members of the couple rate the quality of their relationships higher when the target feels heard (receptive listening), valued, and when their partner helps them solve a problem (direct action).

The findings presented in this thesis provides us with a foundation to begin examining the effectiveness of regulation attempts, the application of this new knowledge to counseling, education, and the workplace as well as continuing to research the individual differences

associated with why we regulate, what underlies our choice of strategies, and how we interpret regulation attempts when we are the target. This thesis adds to a growing and exciting body of literature seeking to understand the role of extrinsic emotion regulation not only within the context of romantic relationships but within interpersonal relationships more broadly.

References

- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). Patterns of attachment, a psychological study of the Strange Situation. Erlbaum.
- Antonucci, T. C., Lansford, J. E., & Akiyama, H. (2001). Impact of positive and negative aspects of marital relationships and friendship on well-being of older adults. *Applied Developmental Science*, 5, 68–75. https://doi.org/10.1207/S1532480XADS0502_2.
- Ashkanasy, N. M., & Dorris, A. D. (2017). Emotions in the workplace. *Annual Review of Organizational Psychology and Organizational Behavior*, 4, 67–90. <https://doi.org/10.1146/annurev-orgpsych-032516-113231>
- Bagby, R. M., Rector, N. A., Bindseil, K., Dickens, S. E., Levitan, R. D., & Kennedy, S. H. (1998). Self-report ratings and informants' ratings of personalities of depressed outpatients. *The American Journal of Psychiatry*, 155(3), 437–438. <https://doi.org/10.1176/ajp.155.3.437>
- Barrett, L. F. (2012). Emotions are real. *Emotion*, 12(3), 413–429. <https://doi.org/10.1037/a0027555>
- Barthel, A. L., Hay, A., Doan, S. N., & Hofmann, S. G. (2018). Interpersonal emotion regulation: A review of social and developmental components. *Behaviour Change*, 35(4), 203–216. <https://doi.org/10.1017/bec.2018.19>
- Bartholomew, K. (1990). Avoidance of intimacy: An attachment perspective. *Journal of Social and Personal Relationships*, 7(2), 147-178. doi:10.1177/0265407590072001
- Bartholomew, K., & Shaver, P. R. (1998). Methods of assessing adult attachment. *Attachment Theory and Close Relationships*, 1998, 25-45. The Guilford Press
- Bartholomew, K., Horowitz, L., & Bartholomew, K. (1991). Attachment styles among young adults: a test of a four-category model. *Journal of Personality and Social Psychology*, 61(2), 226–244.

- Ben-Naim, S., Hirschberger, G., Ein-Dor, T., & Mikulincer, M. (2013). An experimental study of emotion regulation during relationship conflict interactions: The moderating role of attachment orientations. *Emotion*, 13(3), 1-14.
<https://doi.org/10.1037/a0031473>
- Bolger, N., & Eckenrode, J. (1991). Social relationships, personality, and anxiety during a major stressful event. *Journal of Personality and Social Psychology*, 61(3), 440–449. <https://doi.org/10.1037/0022-3514.61.3.440>
- Boncher, M. K. (2003). The relationship between attachment styles and emotional intelligence (Doctoral dissertation, ProQuest Information & Learning).
- Bowlby, J. (1970). *Attachment and Loss*. London: The Hogarth Press and the Institute of Psycho-Analysis.
- Bowlby, J. (1982). Attachment and loss: retrospect and prospect. *American Journal of Orthopsychiatry*, 52(4), 664-678. <https://doi.org/10.1111/j.1939-0025.1982.tb01456.x>
- Brackett, M. A., Mayer, J. D., & Warner, R. M. (2004). Emotional intelligence and its relation to everyday behaviour. *Personality and Individual Differences*, 36(6), 1387-1402. [https://doi.org/10.1016/S0191-8869\(03\)00236-8](https://doi.org/10.1016/S0191-8869(03)00236-8)
- Brackett, M. A., Rivers, S. E., Shiffman, S., Lerner, N., & Salovey, P. (2006). Relating emotional abilities to social functioning: A comparison of self-report and performance measures of emotional intelligence. *Journal of Personality and Social Psychology*, 91, 780–795.
- Brasseur, S., Grégoire, J., Bourdu, R., & Mikolajczak, M. (2013). The Profile of Emotional Competence (PEC): Development and validation of a self-reported measure that fits dimensions of emotional competence theory. *PLoS One*, 8, e62635.
- Bravo, V., Connolly, J., & McIsaac, C. (2017). Why did it end? Breakup reasons of youth of different gender, dating stages, and ages. *Emerging Adulthood*, 5(4), 230-240.

<https://doi.org/10.1177/2167696817700261>

- Brennan, K., & Shaver, P. (1995). Dimensions of adult attachment, affect regulation, and romantic relationship functioning. *Personality and Social Psychology Bulletin*, 21(3), 267–283. <https://doi.org/10.1177/0146167295213008>
- Bressler, E. R., Martin, R. A., & Balshine, S. (2006). Production and appreciation of humor as sexually selected traits. *Evolution and Human Behavior*, 27(2), 121-130. <https://doi.org/10.1016/j.evolhumbehav.2005.09.001>
- Burns, V. L. (2011). *Emotional Intelligence and Coping Styles: Exploring the Relationship Between Attachment and Distress* [Doctoral dissertation, University of Miami]. ProQuest Dissertations & These Global.
- Butler, E. A. (2015). Interpersonal affect dynamics: It takes two (and time) to tango. *Emotion Review*, 7(4), 336–341. <https://doi.org/10.1177/1754073915590622>
- Butler, E. A., & Gross, J. J. (2009). Emotion and emotion regulation: Integrating individual and social levels of analysis. *Emotion Review*, 1(1), 86–87. <https://doi.org/10.1177/1754073908099131>
- Caldwell, J. M. (2013). *The attachment-satisfaction relationship on Facebook: Emotional intelligence and conflict*. [Doctoral dissertation, Purdue University]. ProQuest Dissertations & Theses Global.
- Cann, A., Zapata, C. L., & Davis, H. B. (2009). Positive and negative styles of humor in communication: Evidence for the importance of considering both styles. *Communication Quarterly*, 57, 452–468. <http://10.1080/01463370903313398>
- Carstensen, L. L., Gottman, J. M., & Levenson, R. W. (1995). Emotional behavior in long-term marriage. *Psychology and Aging*, 10(1), 140. <https://doi.org/10.1037/0882-7974.10.1.140>
- Cavallo, J. V., Holmes, J. G., Fitzsimons, G. M., Murray, S. L., & Wood, J. V. (2012).

- Managing motivational conflict: How self-esteem and executive resources influence self-regulatory responses to risk. *Journal of Personality and Social Psychology*, 103(3), 430–451. <https://doi.org/10.1037/a0028821>
- Chan M (2021). Martinctc/rwa: Perform a Relative Weights Analysis. (URL: <https://github.com/martinctc/rwa>), R package version 0.0.3, <URL: <https://cran.r-project.org/web/packages/rwa/readme/README.html>>
- Chang, L. K. (2018). *Adult Attachment in Close Relationships and Trait Emotional Intelligence: The Moderating Role of Mindfulness*. [Doctoral dissertation, University of Northern Colorado]. ProQuest Dissertations & Theses Global.
- Cheng, K. H. C., Hui, C. H., & Cascio, W. F. (2017). Leniency bias in performance ratings: The big-five correlates. *Frontiers in Psychology*, 8, Article 521. <https://doi.org/10.3389/fpsyg.2017.00521>
- Cherry, M. G., Fletcher, I., & O'Sullivan, H. (2013). Exploring the relationships among attachment, emotional intelligence and communication. *Medical Education*, 47(3), 317-325. <https://doi.org/10.1111/medu.12115>
- Cherry, M. G., Fletcher, I., & O'Sullivan, H. (2014). Validating relationships among attachment, emotional intelligence and clinical communication. *Medical Education*, 48(10), 988-997. <https://doi.org/10.1111/medu.12526>
- Cherry, M. G., Fletcher, I., Berridge, D., & O'Sullivan, H. (2018). Do doctors' attachment styles and emotional intelligence influence patients' emotional expressions in primary care consultations? An exploratory study using multilevel analysis. *Patient Education and Counseling*, 101(4), 659-664. <https://doi.org/10.1016/j.pec.2017.10.017>
- Cohen, N., & Arbel, R. (2020). On the benefits and costs of extrinsic emotion regulation to the provider: Toward a neurobehavioral model. *Cortex: A Journal Devoted to the Study of the Nervous System and Behavior*, 130, 1–

15. <https://doi.org/10.1016/j.cortex.2020.05.011>

- Collins, N. L., & Read, S. J. (1990). Adult attachment, working models, and relationship quality in dating couples. *Journal of Personality and Social Psychology*, 58(4), 644-663. <https://doi.org/10.1037/0022-3514.58.4.644>
- Collins, N. L., Ford, M. B., Guichard, A. C., & Allard, L. M. (2006). Working models of attachment and attribution processes in intimate relationships. *Personality and Social Psychology Bulletin*, 32(2), 201-219. <https://doi.org/10.1177/0146167205280907>
- Collins, N., & Feeney, B. (2000). A safe haven: an attachment theory perspective on support seeking and caregiving in intimate relationships. *Journal of Personality and Social Psychology*, 78(6), 1053–1073. <https://doi.org/10.1037/0022-3514.78.6.1053>
- Connelly, B. S., & Ones, D. S. (2010). An other perspective on personality: Meta-analytic integration of observers' accuracy and predictive validity. *Psychological Bulletin*, 136(6), 1092–1122. <https://doi.org/10.1037/a0021212>
- Coo, S., García, M. I., Prieto, F., & Medina, F. (2022). The role of interpersonal emotional regulation on maternal mental health. *Journal of Reproductive and Infant Psychology*, 40(1), 3-21.
- Côté, S. (2005). A Social Interaction Model of the Effects of Emotion Regulation on Work Strain. *The Academy of Management Review*, 30(3), 509–530. <https://doi.org/10.2307/20159142>
- Denham, S. A. (1998). Emotional development in young children. Guilford Press.
- Denham, S. A., Blair, K., Schmidt, M., & DeMulder, E. (2002). Compromised emotional competence: Seeds of violence sown early? *American Journal of Orthopsychiatry*, 72(1), 70-82. <https://doi.org/10.1037/0002-9432.72.1.70>
- Dimitrijević, A. A., Marjanović, Z. J., & Dimitrijević, A. (2018). A further step towards unpacking the variance in trait and ability emotional intelligence: The specific

- contribution of attachment quality. *Current Psychology*, 1-14.
<https://doi.org/10.1007/s12144>
- Dixon-Gordon, K. L., Bernecker, S. L., & Christensen, K. (2015). Recent innovations in the field of interpersonal emotion regulation. *Current Opinion in Psychology*, 3, 36-42.
<https://doi.org/10.1016/j.copsyc.2015.02.001>
- Doohan, E. A. M., & Manusov, V. (2004). The communication of compliments in romantic relationships: An investigation of relational satisfaction and sex differences and similarities in compliment behavior. *Western Journal of Communication (includes Communication Reports)*, 68(2), 170-194.
<https://doi.org/10.1080/10570310409374795>
- Dush, C. M. K., Taylor, M. G., & Kroeger, R. A. (2008). Marital happiness and psychological well-being across the life course. *Family Relations*, 57(2), 211-226.
<https://doi.org/10.1111/j.1741-3729.2008.00495.x>
- Dush, C. M. K., & Amato, P. R. (2005). Consequences of relationship status and quality for subjective well-being. *Journal of Social and Personal Relationships*, 22(5), 607-627.
<https://doi.org/10.1177/0265407505056438>
- Dvorak, M. C. (2014). *The moderating effects of emotional intelligence on the relationship between parental attachment and career decision self-efficacy*. [Doctoral dissertation, University of Northern Colorado]. ProQuest Dissertations & These Global.
- Egger, M., Smith, G., Schneider, M., & Minder, C. (1997). Bias in meta-analysis detected by a simple, graphical test. *BMJ*, 315(7109), 629–634.
<https://doi.org/10.1136/bmj.315.7109.62>
- Elfenbein, H. A., & MacCann, C. (2017). A closer look at ability emotional intelligence (EI): What are its component parts, and how do they relate to each other?. *Social and Personality Psychology Compass*, 11(7), e12324.

- Emery, L. F., Gardner, W. L., Carswell, K. L., & Finkel, E. J. (2021). Who are “we”? Couple identity clarity and romantic relationship commitment. *Personality and Social Psychology Bulletin*, 47(1), 146–160. <https://doi.org/10.1177/0146167220921717>
- Endedijk, H. M., Breeman, L. D., van Lissa, C. J., Hendrickx, M. M., den Boer, L., & Mainhard, T. (2022). *The teacher’s invisible hand: A meta-analysis of the relevance of teacher–student relationship quality for peer relationships and the contribution of student behavior*. *Review of Educational Research*, 92(3), 370-412.
- English, T., John, O. P., Srivastava, S., & Gross, J. J. (2012). Emotion regulation and peer-rated social functioning: A 4-year longitudinal study. *Journal of Research in Personality*, 46, 780 –784. <http://dx.doi.org/10.1016/j.jrp.2012.09.006>
- Esbjørn, B., Breinholst, S., Kriss, A., Hald, H., & Steele, H. (2015). Can attachment and peer relation constructs predict anxiety in ethnic minority youths? A longitudinal exploratory study. *Attachment & Human Development*, 17(6), 599–614.
<https://doi.org/10.1080/14616734.2015.1093699>
- Fan, J., & Wang, Y. (2022). English as a foreign language teachers’ professional success in the Chinese context: The effects of well-being and emotion regulation. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.952503>
- Fenning, R. M., Baker, J. K., & Moffitt, J. (2018). Intrinsic and extrinsic predictors of emotion regulation in children with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 48(11), 3858-3870.
- Fiori, M., Antonietti, J. P., Mikolajczak, M., Luminet, O., Hansenne, M., & Rossier, J. (2014). What is the ability emotional intelligence test (MSCEIT) good for? An evaluation using item response theory. *PloS One*, 9(6), e98827.
<https://doi.org/10.1371/journal.pone.0098827>
- Fisher, Z., & Tipton, E. (2015). Robumeta: An R-package for robust variance estimation in

- meta-analysis. *arXiv preprint arXiv:1503.02220*. (Preprint)
- Fletcher, G. J., Simpson, J. A., Campbell, L., & Overall, N. C. (2015). Pair-bonding, romantic love, and evolution the curious case of homo sapiens. *Perspectives on Psychological Science*, 10, 20–36. <https://doi.org/10.1177/1745691614561683>
- Ford, B. Q., & Gross, J. J. (2019). Why beliefs about emotion matter: An emotion-regulation perspective. *Current Directions in Psychological Science*, 28(1), 74–81. <https://doi.org/10.1177/0963721418806697>
- Forlenza, N. (2006). *The cognitive underpinnings of attachment: implications for strategic emotion abilities* [Doctoral dissertation, St. John's University]. ProQuest Dissertations & Theses Global.
- Fraley, R. (2002). Attachment stability from infancy to adulthood: Meta-analysis and dynamic modeling of developmental mechanisms. *Personality and Social Psychology Review*, 6(2), 123–151. https://doi.org/10.1207/S15327957PSPR0602_03
- Fraley, R. C., & Shaver, P. R. (2000). Adult romantic attachment: Theoretical developments, emerging controversies, and unanswered questions. *Review of General Psychology*, 4(2), 132–154. <https://doi.org/10.1037/1089-2680.4.2.132>
- Fraley, R. C., & Shaver, P. R. (2021). Attachment theory and its place in contemporary personality theory and research. In O. P. John & R. W. Robins (Eds.), *Handbook of personality: Theory and research* (pp. 642–666). The Guilford Press.
- Fraley, R. C., Davis, K. E., & Shaver, P. R. (1998). *Dismissing-avoidance and the defensive organization of emotion, cognition, and behavior*. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (p. 249–279). The Guilford Press.
- Fraley, R. C., Hudson, N. W., Heffernan, M. E., & Segal, N. (2015). Are adult attachment styles categorical or dimensional? A taxometric analysis of general and relationship-specific attachment orientations. *Journal of Personality and Social Psychology*,

109(2), 354–368. <https://doi.org/10.1037/pspp0000027>

Fraley, R. C., Niedenthal, P. M., Marks, M., Brumbaugh, C., & Vicary, A. (2006). Adult Attachment and the Perception of Emotional Expressions: Probing the Hyperactivating Strategies Underlying Anxious Attachment. *Journal of Personality*, 74(4), 1163–1190. <https://doi.org/10.1111/j.1467-6494.2006.00406.x>

Fraley, R., Niedenthal, P. M., Marks, M., Brumbaugh, C., & Vicary, A. (2006). Adult attachment and the perception of emotional expressions: Probing the hyperactivating strategies underlying anxious attachment. *Journal of Personality*, 74(4), 1163–1190. <https://doi.org/10.1111/j.1467-6494.2006.00406.x>

Fredrickson, B. L., & Levenson, R. W. (1998). Positive emotions speed recovery from the cardiovascular sequelae of negative emotions. *Cognition & Emotion*, 12, 191–220. <https://10.1080/026999398379718>

Freudenthaler, H. H., & Neubauer, A. C. (2005). Emotional intelligence: The convergent and discriminant validities of intra and interpersonal emotional abilities. *Personality and Individual Differences*, 39, 569–579.

Fullam, A. (2002). *Adult attachment, emotional intelligence, health, and immunological responsiveness to stress*. [Doctoral dissertation, Rutgers the State University of New Jersey]. ProQuest Dissertations & These Global.

Girme, Y. U., Maniaci, M. R., Reis, H. T., McNulty, J. K., Carmichael, C. L., Gable, S. L., Baker, L. R., & Overall, N. C. (2018). Does support need to be seen? Daily invisible support promotes next day relationship well-being. *Journal of Family Psychology*, 32(7), 882–893. <https://doi.org/10.1037/fam0000453>

Goldenberg, I. (2004). *The role of emotional intelligence, attachment, and coping in mediating the effects of childhood abuse* [Doctoral dissertation, Carleton University]. ProQuest Dissertations & Theses Global.

- Gottman, J. M., Driver, J., & Tabares, A. (2015). Repair during marital conflict in newlyweds: How couples move from attack–defend to collaboration. *Journal of Family Psychotherapy*, 26(2), 85–108. <https://doi.org/10.1080/08975353.2015.1038962>
- Graham, S. M., Huang, J. Y., Clark, M. S., & Helgeson, V. S. (2008). The positives of negative emotions: Willingness to express negative emotions promotes relationships. *Personality and Social Psychology Bulletin*, 34(3), 394-406. <https://doi.org/10.1177/0146167207311281>
- Greenier, V., Derakhshan, A., & Fathi, J. (2021). Emotion regulation and psychological well-being in teacher work engagement: a case of British and Iranian English language teachers. *System*, 97, 102446. <https://doi.org/10.1016/j.system.2020.102446>
- Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General Psychology*, 2(3), 271-299. <https://doi.org/10.1037/1089-2680.2.3.271>
- Gross, J. J. (2002). Emotion regulation: Affective, cognitive, and social consequences. *Psychophysiology*, 39(3), 281-291. <https://doi.org/10.1017/S0048577201393198>
- Gross, J. J. (2008). Emotion regulation. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions* (pp. 497–512). The Guilford Press.
- Gross, J. J. (2015). The extended process model of emotion regulation: Elaborations, applications, and future directions. *Psychological Inquiry*, 26(1), 130-137. <https://doi.org/10.1080/1047840X.2015.989751>
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, 85(2), 348-362. <https://doi.org/10.1037/0022-3514.85.2.348>
- Gross, J. J., Richards, J. M., & John, O. P. (2006). Emotion regulation in everyday life. In D.

- K. Snyder, J. A. Simpson, & J. N. Hughes (Eds.), *Emotion regulation in couples and families: Pathways to dysfunction and health* (pp. 13–36). Washington, DC: American Psychological Association
- Guerrero, L. K. (1996). Attachment-style differences in intimacy and involvement: A test of the four-category model. *Communications Monographs*, 63(4), 269-292.
<https://doi.org/10.1080/03637759609376395>
- Gustafsson, J.-E., & Balke, G. (1993). General and specific abilities as predictors of school achievement. *Multivariate Behavioral Research*, 28(4), 407–434. https://doi.org/10.1207/s15327906mbr2804_2
- Hall, J. A. (2017). Humor in romantic relationships: A meta-analysis. *Personal Relationships*, 24(2), 306-322. <https://doi.org/10.1111/per.12183>
- Hamarta, E., Deniz, M., & Saltali, N. (2009). Attachment Styles as a Predictor of Emotional Intelligence. *Educational Sciences: Theory and Practice*, 9(1), 213-229.
<https://doi.org/10.1016/j.sbspro.2013.07.018>
- Hazan, C., & Shaver, P. (1987). Romantic Love Conceptualized as an Attachment Process. *Journal of Personality and Social Psychology*, 52(3), 511–524.
<https://doi.org/10.1037/0022-3514.52.3.511>
- Hedges, L. V., Tipton, E., & Johnson, M. C. (2010). Robust variance estimation in meta-regression with dependent effect size estimates. *Research Synthesis Methods*, 1(1), 39-65. <https://doi.org/10.1002/jrsm.5>
- Hendrick, S. S. (1988). A generic measure of relationship satisfaction. *Journal of Marriage and the Family*, 93-98. <https://doi.org/10.2307/352430>
- Hendrick, S. S., Dicke, A., & Hendrick, C. (1998). The relationship assessment scale. *Journal of Social and Personal Relationships*, 15, 137–142.
<https://doi.org/10.1177/0265407598151009>

- Higgins, J. P., & Green, S. (Eds.). (2011). *Cochrane handbook for systematic reviews of interventions* (Vol. 4). Wiley.
- Higgins, J. P., & Thompson, S. G. (2002). Quantifying heterogeneity in a meta-analysis. *Statistics in medicine*, 21(11), 1539-1558. <https://doi.org/10.1002/sim.1186>
- Hofmann, S. G. (2014). Interpersonal emotion regulation model of mood and anxiety disorders. *Cognitive Therapy and Research*, 38(5), 483-492.
- Hone, L. S., Hurwitz, W., & Lieberman, D. (2015). Sex differences in preferences for humor: A replication, modification, and extension. *Evolutionary Psychology*, 13(1), 147470491501300110. <https://doi.org/10.1177/147470491501300110>
- Horn, A. B., Samson, A. C., Debrot, A., & Perrez, M. (2019). Positive humor in couples as interpersonal emotion regulation: A dyadic study in everyday life on the mediating role of psychological intimacy. *Journal of Social and Personal Relationships*, 36(8), 2376-2396.
- Hu, L.-t., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>
- Ickes, W., Stinson, L., Bissonnette, V., & Garcia, S. (1990). Naturalistic social cognition: Empathic accuracy in mixed-sex dyads. *Journal of Personality and Social Psychology*, 59(4), 730–742. <https://doi.org/10.1037/0022-3514.59.4.730>
- Impett, E. A., Kogan, A., English, T., John, O., Oveis, C., Gordon, A. M., & Keltner, D. (2012). Suppression sours sacrifice: Emotional and relational costs of suppressing emotions in romantic relationships. *Personality and Social Psychology Bulletin*, 38(6), 707–720. <https://doi.org/10.1177/0146167212437249>
- Jarman, R. E., & Windsor, T. D. (2021). “Calm Down,” “Cheer Up”: How Age Influences the Way We Manage Emotion in Social Partners. *Research on Aging*, 43(2), 74-84.

- JASP Team (2022). JASP (Version 0.16.3)[Computer software].
- Joel, S., Eastwick, P. W., Allison, C. J., Arriaga, X. B., Baker, Z. G., Bar-Kalifa, E., ... & Wolf, S. (2020). Machine learning uncovers the most robust self-report predictors of relationship quality across 43 longitudinal couples studies. *Proceedings of the National Academy of Sciences*, 117(32), 19061-19071.
- Joseph, D. L., & Newman, D. A. (2010). Emotional intelligence: An integrative meta-analysis and cascading model. *Journal of Applied Psychology*, 95, 54-78.
<https://doi.org/10.1037a0017286>
- Kafetsios, K. (2004). Attachment and emotional intelligence abilities across the life course. *Personality and individual Differences*, 37(1), 129-145.
<https://doi.org/10.1016/ja.paid.2003.08.006>
- Kafetsios, K., & Nezlek, J. B. (2002). Attachment styles in everyday social interaction. *European Journal of Social Psychology*, 32(5), 719-735.
<https://doi.org/10.1002/ejsp.130>
- Kashdan, T. B., Volkmann, J. R., Breen, W. E., & Han, S. (2007). Social anxiety and romantic relationships: The costs and benefits of negative emotion expression are context-dependent. *Journal of Anxiety Disorders*, 21(4), 475-492.
<https://doi.org/10.1016/j.janxdis.2006.08.007>
- Keltner, D., & Haidt, J. (2001). Social functions of emotions. In T. J. Mayne & G. A. Bonanno (Eds.), *Emotions: Current Issues and Future Directions* (pp. 192–213). Guilford Press.
- Keltner, D., & Kring, A. M. (1998). Emotion, social function, and psychopathology. *Review of General Psychology*, 2(3), 320–342. <https://doi.org/10.1037/1089-2680.2.3.320>
- Kiel, E. J., Price, N. N., & Premo, J. E. (2020). Maternal comforting behavior, toddlers' dysregulated fear, and toddlers' emotion regulatory behaviors. *Emotion*, 20(5), 793.

- Kim, Y. (2005). Emotional and cognitive consequences of adult attachment: The mediating effect of the self. *Personality and Individual Differences*, 39(5), 913-923.
<https://doi.org/10.1016/j.paid.2005.03.010>
- Kinkead, A., Sanduvete-Chaves, S., Chacón-Moscoso, S., & Salas, C. E. (2021). Couples extrinsic emotion regulation questionnaire: Psychometric validation in a Chilean population. *Plos One*, 16(6), e0252329. <https://doi.org/10.1371/journal.pone.0252329>
- Kirby, J. S., & Baucom, D. H. (2007). Treating emotion dysregulation in a couples context: A pilot study of a couples skills group intervention. *Journal of Marital and Family Therapy*, 33(3), 375-391. <https://doi.org/10.1111/j.1752-0606.2007.00037.x>
- Kline, R. B. (2015). Principles and practice of structural equation modeling. Guilford.
- Kobak, R., & Sceery, A. (1988). Attachment in late adolescence: working models, affect regulation, and representations of self and others. *Child Development*, 59(1), 135–146.
<https://doi.org/10.2307/1130395>
- Kurtz, L. E., & Algoe, S. B. (2015). Putting laughter in context: Shared laughter as behavioral indicator of relationship well-being. *Personal Relationships*, 22(4), 573–590. <https://doi.org/10.1111/per.12095>
- Kwon, K., & López-Pérez, B. (2022). Cheering my friends up: the unique role of interpersonal emotion regulation strategies in social competence. *Journal of Social and Personal Relationships*, 39(4), 1154-1174.
<https://doi.org/10.1177/026540752110542>
- Lanciano, T., Curci, A., Kafetsios, K., Elia, L., & Zammuner, V. L. (2012). Attachment and dysfunctional rumination: The mediating role of Emotional Intelligence abilities. *Personality and Individual Differences*, 53(6), 753-758.
<https://doi.org/10.1016/j.paid.2012.05.027>
- Lench, H. C., Tibbett, T. P., & Bench, S. W. (2016). Exploring the toolkit of emotion: What

- do sadness and anger do for us? *Social and Personality Psychology Compass*, 10(1), 11–25. <https://doi.org/10.1111/spc3.12229>
- Levenson, R. W., Haase, C. M., Bloch, L., Holley, S. R., & Seider, B. H. (2014). Emotion regulation in couples. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 267–283). The Guilford Press
- Levenson, R. W., Haase, C. M., Bloch, L., Holley, S. R., & Seider, B. H. (2014). Emotion regulation in couples. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 267–283). The Guilford Press
- Li, X., & Zheng, X. (2014). Adult attachment orientations and subjective wellbeing: Emotional intelligence and self-esteem as moderators. *Social Behavior and Personality: An International Journal*, 42(8), 1257-1265.
<https://doi.org/10.2224/sbp.2014.42.8.1257>
- Little, L. M., Kluemper, D., Nelson, D. L., & Gooty, J. (2012). Development and validation of the Interpersonal Emotion Management Scale. *Journal of Occupational and Organizational Psychology*, 85(2), 407–420. <https://doi.org/10.1111/j.2044-8325.2011.02042.x>
- Lopes, P., Brackett, M., Nezlek, J., Schütz, A., Sellin, I., & Salovey, P. (2004). Emotional Intelligence and Social Interaction. *Personality and Social Psychology Bulletin*, 30(8), 1018–1034. <https://doi.org/10.1177/0146167204264762>
- López-Pérez, B., & McCulloch, S. (2021). General and contextualized emotion goals and its link with well-being across late, middle, and young adulthood. *British Journal of Developmental Psychology*, 39(2), 299–311. <https://doi.org/10.1111/bjdp.12343>
- MacCann, C., Double, K. S., Olderbak, S., Austin, E. J., Pinkus, R., Walker, S. A., ... & Niven, K. (2023). What do we do to help others feel better? Eight extrinsic emotion regulation processes linked to affective and interpersonal outcomes. *Psyarvx*

- MacCann, C., Jiang, Y., Brown, L. E. R., Double, K. S., Bucich, M., & Minbashian, A. (2019). Emotional intelligence predicts academic performance: A meta-analysis. *Psychological Bulletin*, 146, 150-186. <https://doi.org/10.1037/bul0000219>
- Main, M., Goldwyn, R., & Hesse, E. (2003). Adult attachment scoring and classification system. Unpublished manuscript, University of California, Berkeley.
- Malouff, J., Schutte, N., & Thorsteinsson, E. (2014). Trait emotional intelligence and romantic relationship satisfaction: A meta-analysis. *The American Journal of Family Therapy*, 42(1), 53–66. <https://doi.org/10.1080/01926187.2012.748549>
- Marigold, D. C., Cavallo, J. V., Holmes, J. G., & Wood, J. V. (2014). You can't always give what you want: The challenge of providing social support to low self-esteem individuals. *Journal of Personality and Social Psychology*, 107(1), 56–80. <https://doi.org/10.1037/a0036554>
- Marks, A., Horrocks, K., & Schutte, N. (2016). Emotional intelligence mediates the relationship between insecure attachment and subjective health outcomes. *Personality and Individual Differences*, 98, 188–192. <https://doi.org/10.1016/j.paid.2016.03.038>
- Martins, A., Ramalho, N., & Morin, E. (2010). A comprehensive meta-analysis of the relationship between emotional intelligence and health. *Personality and Individual Differences*, 49, 554-564. <https://doi.org/10.1016/j.paid.2010.05.029>
- Matthews, M., Webb, T. L., & Sheppes, G. (2021). Do people choose the same strategies to regulate other people's emotions as they choose to regulate their own? *Emotion*. Advance online publication. <https://doi.org/10.1037/emo0001008>
- Mattingly, V., & Kraiger, K. (2019). Can emotional intelligence be trained? A meta-analytical investigation. *Human Resource Management Review*, 29(2), 140–155. <https://doi.org/10.1016/j.hrmr.2018.03.002>
- Mayer, J. D., Caruso, D. R., & Salovey, P. (2016). The ability model of emotional

- intelligence: Principles and updates. *Emotion Review*, 8, 290–300.
<https://doi.org/10.1177/1754073916639667>
- Mayer, J., Salovey, P., & Caruso, D. (2004). Emotional intelligence: Theory, findings, and implications. *Psychological Inquiry*, 15, 197–215.
https://doi.org/10.1207/s15327965pli1503_02
- Mazzuca, S., Kafetsios, K., Livi, S., & Presaghi, F. (2019). Emotion regulation and satisfaction in long-term marital relationships: The role of emotional contagion. *Journal of Social and Personal Relationships*, 36(9), 2880-2895.
<https://10.1177/0265407518804452>
- McNulty, J. K., Meltzer, A. L., Neff, L. A., & Karney, B. R. (2021). How both partners' individual differences, stress, and behavior predict change in relationship satisfaction: Extending the VSA model. *Proceedings of the National Academy of Sciences*, 118(27). <https://doi.org/10.1073/pnas.2101402118>
- Meyer, B., Pilkonis, P. A., & Beevers, C. G. (2004). What's in a (neutral) face? Personality disorders, attachment styles, and the appraisal of ambiguous social cues. *Journal of Personality Disorders*, 18, 320-336. <https://doi.org/10.1521/pedi.18.4.320.40344>
- Miao, C., Humphrey, R., & Qian, S. (2017). A meta-analysis of emotional intelligence and work attitudes. *Journal of Occupational and Organizational Psychology*, 90(2), 177–202. <https://doi.org/10.1111/joop.12167>
- Mikolajczak, M. (2013). The Profile of Emotional Competence (PEC): Development and validation of a self-reported measure that fits dimensions of emotional competence theory. *PLoS One*, 8, e62635.
- Mikulincer, M., & Shaver, P. R. (2007). *Attachment in adulthood: Structure, dynamics, and change*. The Guilford Press.
- Mikulincer, M., Dolev, T., & Shaver, P. R. (2004). Attachment-Related Strategies During

- Thought Suppression: Ironic Rebounds and Vulnerable Self-Representations. *Journal of Personality and Social Psychology*, 87(6), 940–956. <https://doi.org/10.1037/0022-3514.87.6.940>
- Mikulincer, M., Orbach, I., & Iavnieli, D. (1998). Adult attachment style and affect regulation: Strategic variations in subjective self–other similarity. *Journal of Personality and Social Psychology*, 75(2), 436–448. <https://doi.org/10.1037/0022-3514.75.2.436>
- Mohamed, N. (2012). *Adjustment to University: Predictors, Outcomes and Trajectories* [Doctoral dissertation, University of Central Lancashire]. Proquest Dissertation & Theses Global.
- Mulder, J. W. (2016) *An Examination of the Associations Between Attachment Style, Trait Emotional Intelligence, and Person – Environment Fit* [Doctoral dissertation, Grand Canyon University Arizona]. Proquest Dissertations & Theses Global.
- Murray, S. L., & Holmes, J. G. (2009). The architecture of interdependent minds: A Motivation-management theory of mutual responsiveness. *Psychological Review*, 116(4), 908. <https://doi.org/10.1037/0022-3514.88.2.327>
- Murray, S. L., Holmes, J. G., & Griffin, D. W. (1996). The benefits of positive illusions: Idealization and the construction of satisfaction in close relationships. *Journal of Personality and Social Psychology*, 70(1), 79.
- Murray, S. L., Holmes, J. G., & Griffin, D. W. (1996). The self-fulfilling nature of positive illusions in romantic relationships: love is not blind, but prescient. *Journal of Personality and Social Psychology*, 71(6), 1155.
- Murray, S. L., Holmes, J. G., & Pinkus, R. T. (2010). A smart unconscious? Procedural origins of automatic partner attitudes in marriage. *Journal of Experimental Social Psychology*, 46(4), 650-656. <https://doi.org/10.1016/j.jesp.2010.03.003>

- Murray, S. L., Rose, P., Bellavia, G. M., Holmes, J. G., & Kusche, A. G. (2002). When rejection stings: How self-esteem constrains relationship-enhancement processes. *Journal of Personality and Social Psychology*, 83(3), 556–573.
<https://doi.org/10.1037/0022-3514.83.3.556>
- Neustadt, E. A., Chamorro-Premuzic, T., & Furnham, A. (2011). Attachment at work and performance. *Attachment & Human Development*, 13(5), 471-488.
<https://doi.org/10.1080/14616734.2011.602254>
- Niedenthal, P. M., Brauer, M., Robin, L., & Innes-Ker, Å. H. (2002). Adult attachment and the perception of facial expression of emotion. *Journal of Personality and Social Psychology*, 82(3), 419-433. <https://doi.org/10.1037/0022-3514.82.3.419>
- Nils, F., & Rimé, B. (2012). Beyond the myth of venting: Social sharing modes determine the benefits of emotional disclosure. *European Journal of Social Psychology*, 42, 672-681. <https://doi.org/10.1002/ejsp.1880>
- Niven, K., Macdonald, I., & Holman, D. (2012). You spin me right round: Cross-relationship variability in interpersonal emotion regulation. *Frontiers in Psychology*, 3, 394.
<https://doi.org/10.3389/fpsyg.2012.00394>
- Niven, K., Totterdell, P., & Holman, D. (2009). A classification of controlled interpersonal affect regulation strategies. *Emotion*, 9(4), 498–509. <https://doi.org/10.1037/a0015962>
- Niven, K., Totterdell, P., Holman, D., & Headley, T. (2012). Does regulating others' feelings influence people's own affective well-being?. *The Journal of Social Psychology*, 152(2), 246-260. <https://doi.org/10.1080/00224545.2011.599823>
- Niven, K., Totterdell, P., Stride, C. B., & Holman, D. (2011). Emotion Regulation of Others and Self (EROS): The development and validation of a new individual difference measure. *Current Psychology*, 30(1), 53-73. <https://doi.org/10.1007/s12144-011-9099-9>

- Niven, K., Troth, A. C., & Holman, D. (2019). Do the effects of interpersonal emotion regulation depend on people's underlying motives?. *Journal of Occupational and Organizational Psychology*, 92(4), 1020-1026. <https://doi.org/10.1111/joop.12257>
- Niven., K., Garcia, D., Löwe, I. V. D., Holman, D., & Mansell, W. (2015). Becoming popular: Interpersonal emotion regulation predicts relationship formation in real life social networks. *Frontiers in Psychology*, 6, 1452.
<https://doi.org/10.3389/fpsyg.2015.01452>
- Niven., K., Garcia, D., Löwe, I. V. D., Holman, D., & Mansell, W. (2015). Becoming popular: Interpersonal emotion regulation predicts relationship formation in real life social networks. *Frontiers in Psychology*, 6, 1452.
<https://doi.org/10.3389/fpsyg.2015.01452>
- Nourmand, R. S. (2013). *Emotional intelligence, attachment style, and ambivalent sexism*. [Doctoral dissertation, Alliant International University]. ProQuest Dissertations & Theses Global.
- Nozaki, Y., & Mikolajczak, M. (2020). Extrinsic emotion regulation. *Emotion*, 20(1), 10-15.
<https://doi.org/10.037/emo0000636>
- Olderbak, S., Semmler, M., & Doebler, P. (2019). Four-branch model of ability emotional intelligence with fluid and crystallized intelligence: A meta-analysis of relations. *Emotion Review*, 11, 166-183. <https://doi.org/10.1177/1754073918776776>
- Orth, U., Erol, R. Y., Ledermann, T., & Grob, A. (2018). Codevelopment of well-being and self-esteem in romantic partners: Disentangling the effects of mutual influence and shared environment. *Developmental Psychology*, 54(1), 151–166. <https://doi.org/10.1037/dev0000400>
- Overall, N. C., Fletcher, G. J. O., Simpson, J. A., & Fillo, J. (2015). Attachment insecurity, biased perceptions of romantic partners' negative emotions, and hostile relationship

- behavior. *Journal of Personality and Social Psychology*, 108(5), 730–749. <https://doi.org/10.1037/a0038987>
- Park, L. E., Crocker, J., & Mickelson, K. D. (2004). Attachment styles and contingencies of self-worth. *Personality and Social Psychology Bulletin*, 30(10), 1243-1254. <https://doi.org/10.1177/0146167204264000>
- Pateraki, E., & Roussi, P. (2013). Marital quality and well-being: The role of gender, marital duration, social support and cultural context. A Positive Psychology Perspective on Quality of Life: *Social Indicators Research Series*, 51, 125–145. https://doi.org/10.1007/978-94-007-4963-4_8.
- Pauw, L. S., Sauter, D. A., Van Kleef, G. A., & Fischer, A. H. (2018). Sense or sensibility? Social sharers' evaluations of socio-affective vs. cognitive support in response to negative emotions. *Cognition and Emotion*, 32, 1247-1264. <https://doi.org/10.1080/02699931.2017.1400949>
- Petrides, K. V. (2010). Trait emotional intelligence theory. *Industrial and Organizational Psychology*, 3(2), 136–139. <https://doi.org/10.1111/j.1754-9434.2010.01213.x>
- Petrides, K. V., & Furnham, A. (2001). Trait emotional intelligence: psychometric investigation with reference to established trait taxonomies. *European Journal of Personality*, 15(6), 425–448. <https://doi.org/10.1002/per.416>
- Petrides, K. V., Pita, R., & Kokkinaki, F. (2007). The location of trait emotional intelligence in personality factor space. *British Journal of Psychology*, 98(2), 273-289. <https://doi.org/10.1348/000712606X120618>
- Pinkus, R. T., Lockwood, P., Schimmack, U., & Fournier, M. A. (2008). For better and for worse: Everyday social comparisons between romantic partners. *Journal of Personality and Social Psychology*, 95(5), 1180–1201. <https://doi.org/10.1037/0022-3514.95.5.1180>

- Poling, D. V., Van Loan, C. L., Garwood, J. D., Zhang, S., & Riddle, D. (2022). *Enhancing teacher-student relationship quality: A narrative review of school-based interventions*. *Educational Research Review*, 37, 100459.
<https://doi.org/10.1016/j.edurev.2022.100459>
- Pollitt, A. M., Blair, K. L., & Lannutti, P. J. (2023). *A review of two decades of LGBTQ-inclusive research in JSPR and PR*. *Personal Relationships*, 30(1), 144-173.
<https://doi.org/10.1111/pere.12432>
- Proulx, C. M., Helms, H. M., & Buehler, C. (2007). Marital quality and personal well-being: A meta-analysis. *Journal of Marriage and Family*, 69(3), 576–593. <https://doi.org/10.1111/j.1741-3737.2007.00393.x>
- R Core Team (2021). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL <https://www.R-project.org/>.
- Reeck, C., Ames, D. R., & Ochsner, K. N. (2016). The social regulation of emotion: An integrative, cross-disciplinary model. *Trends in Cognitive Sciences*, 20(1), 47–63. <https://doi.org/10.1016/j.tics.2015.09.003>
- Reise, S. P., Scheines, R., Widaman, K. F., & Haviland, M. G. (2013). Multidimensionality and structural coefficient bias in structural equation modeling: A bifactor perspective. *Educational and Psychological Measurement*, 73(1), 5–26. <https://doi.org/10.1177/0013164412449831>
- Rimé, B. (2007). The social sharing of emotion as an interface between individual and collective processes in the construction of emotional climates. *Journal of Social Issues*, 63(2), 307–322. <https://doi.org/10.1111/j.1540-4560.2007.00510.x>
- Ritter, R. (2013). *Attachment orientations, emotional intelligence, and satisfaction in romantic relationships* [Doctoral dissertation, Fairleigh Dickinson University]. ProQuest Dissertations & Theses Global.

- Ruan, Y., Le, J. D. V., & Reis, H. T. (2023). *How can I help?: Specific strategies used in interpersonal emotion regulation in a relationship context*. *Emotion*.
- Rusbult, C. E., & Van Lange, P. A. M. (2003). Interdependence, interaction and relationships. *Annual Review of Psychology*, 54, 351–375. <https://doi.org/10.1146/annurev.psych.54.101601.145059>
- Rusu, P. P., Bodenmann, G., & Kayser, K. (2019). Cognitive emotion regulation and positive dyadic outcomes in married couples. *Journal of Social and Personal Relationships*, 36(1), 359-376. <https://doi.org/10.1177/0265407517751664>
- Saarni, C. (1993). *Socialization of emotion*. In M. Lewis & J. M. Haviland (Eds.), *Handbook of emotions* (p. 435–446). Guildford.
- Sánchez-Álvarez, N., Extremera, N., & Fernández-Berrocal, P. (2016). The relation between emotional intelligence and subjective wellbeing: A meta-analytic investigation. *The Journal of Positive Psychology*, 11(3), 276–285. <https://doi.org/10.1080/17439760.2015.1058968>
- Santascoy, N., Burke, S., & Dovidio, J. (2018). Avoidant attachment style predicts less positive evaluations of warm (but not cold) social groups. *Group Processes & Intergroup Relations*, 21(1), 19–36. <https://doi.org/10.1177/1368430216663016>
- Sasaki, E., Overall, N. C., Chang, V. T., & Low, R. S. (2021). A dyadic perspective of expressive suppression: Own or partner suppression weakens relationships. *Emotion*. <https://doi.org/10.1037/emo0000978>
- Schröder-Abé, M., & Schütz, A. (2011). Walking in each other's shoes: Perspective taking mediates effects of emotional intelligence on relationship quality. *European Journal of Personality*, 25(2), 155-169. <http://dx.doi.org/10.1002/per.818>
- Schutte, N. S., Malouff, J. M., & Thorsteinsson, E. B. (2013). Increasing emotional intelligence through training: Current status and future directions. *International*

- Journal of Emotional Education*, 5(1), 56-72.
- Schutte, N. S., Malouff, J. M., Bobik, C., Coston, T. D., Greeson, C., Jedlicka, C., ... & Wendorf, G. (2001). Emotional intelligence and interpersonal relations. *The Journal of Social Psychology*, 141(4), 523-536. <https://doi.org/10.1080/00224540109600569>
- Schwarz, N., & Clore, G. L. (1983). Mood, misattribution, and judgments of well-being: Informative and directive functions of affective states. *Journal of Personality and Social Psychology*, 45(3), 513–523. <https://doi.org/10.1037/0022-3514.45.3.513>
- Seehausen, M., Kazzer, P., Bajbouj, M., & Prehn, K. (2012). Effects of empathic paraphrasing–extrinsic emotion regulation in social conflict. *Frontiers in Psychology*, 3, 482. <https://doi.org/10.3389/fpsyg.2012.00482>
- Selig, J. P., & Little, T. D. (2012). Autoregressive and cross-lagged panel analysis for longitudinal data. In B. Laursen, T. D. Little, & N. A. Card (Eds.), *Handbook of developmental research methods* (pp. 265–278). New York: Guilford Press.
- Shaver, P. R., & Brennan, K. A. (1992). Attachment styles and the "Big Five" personality traits: Their connections with each other and with romantic relationship outcomes. *Personality and Social Psychology Bulletin*, 18(5), 536-545. <https://doi.org/10.1177/0146167292185003>
- Sheppes, G. (2020). Transcending the “good & bad” and “here & now” in emotion regulation: Costs and benefits of strategies across regulatory stages. In B. Gawronski (Ed.), *Advances in experimental social psychology* (pp. 185–236). Elsevier Academic Press. <https://doi.org/10.1016/bs.aesp.2019.09.003>
- Soper, D.S. (2022). A-priori Sample Size Calculator for Structural Equation Models [Software]. Available from <https://www.danielsoper.com/statcalc>
- Springstein, T., Hamerling-Potts, K. K., Landa, I., & English, T. (2023). Adult attachment and interpersonal emotion regulation motives in daily life. *Emotion*, 23(5), 1281–

1293. <https://doi.org/10.1037/emo0001169>

Stevens, F. L. (2014). Affect Regulation Styles in Avoidant and Anxious Attachment. *Individual Differences Research*, 12(3).

Stevens, F. L. (2017). Authenticity: a mediator in the relationship between attachment style and affective functioning. *Counselling Psychology Quarterly*, 30(4), 392-414.
<https://doi.org/10.1080/09515070.2016.1176010>

Stolarski, M., Postek, S., & Smieja, M. (2011). Emotional intelligence and conflict resolution strategies in romantic heterosexual couples. *Studia Psychologiczne*, 49(5), 65–76.
<https://doi.org/10.2478/v10167-010-0041-9>

Strick, M., Holland, R. W., van Baaren, R. B., & Van Knippenberg, A. D. (2009). Finding comfort in a joke: Consolatory effects of humor through cognitive distraction. *Emotion*, 9, 574–578. <https://doi.org/10.1037/a0015951>

Tamminen, K. A., Page-Gould, E., Schellenberg, B., Palmateer, T., Thai, S., Sabiston, C. M., & Crocker, P. R. E. (2019). A daily diary study of interpersonal emotion regulation, the social environment, and team performance among university athletes. *Psychology of Sport and Exercise*, 45, Article 101566. <https://doi.org/10.1016/j.psychsport.2019.101566>

Tanna, V. J., & MacCann, C. (2022). I know you so I will regulate you: Closeness but not target's emotion type affects all stages of extrinsic emotion regulation. *Emotion*. Advance online publication. <https://doi.org/10.1037/emo0001073>

Thompson, R. A. (2011). Emotion and emotion regulation: Two sides of the developing coin. *Emotion Review*, 3(1), 53-61. <https://doi.org/10.1177/1754073910380969>

Tonidandel, S., LeBreton, J. M., & Johnson, J. W. (2009). Determining the statistical significance of relative weights. *Psychological Methods*, 14(4), 387.

<https://doi.org/10.1037/a0017735>

Torchiano M (2020). *_effsize: Efficient Effect Size Computation_*. doi: 10.5281/zenodo.1480624 (URL:<https://doi.org/10.5281/zenodo.1480624>), R package version 0.8.1, <URL:<https://CRAN.R-project.org/package=effsize>>.

Tucker, J. S., & Anders, S. L. (1999). Attachment style, interpersonal perception accuracy, and relationship satisfaction in dating couples. *Personality and Social Psychology Bulletin*, 25(4), 403-412. <https://doi.org/10.1177/0146167299025004001>

van der Linden, D., Pekaar, K., Bakker, A., Schermer, J., Vernon, P., Dunkel, C., & Petrides, K. (2017). Overlap between the general factor of personality and emotional intelligence: a meta-analysis. *Psychological Bulletin*, 143, 36-52. <https://doi.org/10.1037/bul0000078>

Vater, A., & Schröder-Abé, M. (2015). Explaining the link between personality and relationship satisfaction: Emotion regulation and interpersonal behaviour in conflict discussions. *European Journal of Personality*, 29(2), 201-215.

<https://doi.org/10.1002/per.1993>

Viechtbauer, W. (2010). Conducting meta-analyses in R with the metafor package. *Journal of Statistical Software*, 36(3), 1–48. <https://doi.org/10.18637/jss.v036.i03>

Von Culin, K. R., Hirsch, J. L., & Clark, M. S. (2018). Willingness to express emotion depends upon perceiving partner care. *Cognition and Emotion*, 32(3), 641-650. <https://doi.org/10.1080/02699931.2017.1331906>

Voss, K., Markiewicz, D., & Doyle, A. B. (1999). Friendship, marriage and self-esteem. *Journal of Social and Personal Relationships*, 16(1), 103-122. <https://doi.org/10.1177/0265407599161006>

Walker SA, MacCann C. (2023). Faking good on self-reports versus informant-reports of emotional intelligence. *Assessment*. 2023.

<https://www.doi.org/10.1177/10731911231203960>

Walker, S. A. (2021). Faking on Self-and Informant-reports of the Dark Triad of Personality (Doctoral dissertation).

Walker, S. A., Double, K. S., Birney, D. P., & MacCann, C. (2022). How much can people fake on the dark triad? A meta-analysis and systematic review of instructed faking. *Personality and individual differences*, 193, 111622.

Walker, S. A., Pinkus, R., Double, K. S., Xiao, H., & MacCann, C. (2023). It's What I Think You Do That Matters: Comparing Self, Partner, and Shared Perspectives of What a Romantic Partner Does to Regulate Your Emotions.

Walker, S. A., Pinkus, R. T., Olderbak, S., & MacCann, C. (2023). People with higher relationship satisfaction use more humor, valuing, and receptive listening to regulate their partners' emotions. *Current Psychology*, 1-9. <https://doi.org/10.1007/s12144-023-04432-4>

Wearden, A., Peters, I., Berry, K., Barrowclough, C., & Liversidge, T. (2008). Adult attachment, parenting experiences, and core beliefs about self and others. *Personality and Individual Differences*, 44(5), 1246-1257.
<https://doi.org/10.1016/j.paid.2007.11.019>

Westland, J.C. (2010). Lower bounds on sample size in structural equation modeling. *Electronic Commerce Research and Applications*, 9(6), 476-487.
<https://doi.org/10.1016/j.elerap.2010.07.003>

Wheeler, L., & Miyake, K. (1992). Social comparison in everyday life. *Journal of Personality and Social Psychology*, 62(5), 760–773. <https://doi.org/10.1037/0022-3514.62.5.760>

Whisman, M. A. (2007). Marital distress and DSM-IV psychiatric disorders in a population-based national survey. *Journal of Abnormal Psychology*, 116(3), 638.

<https://doi.org/10.1037/0021-843X.116.3.638>

Whisman, M. A. (2007). Marital distress and DSM-IV psychiatric disorders in a population-based national survey. *Journal of Abnormal Psychology*, 116(3), 638.

<https://doi.org/10.1037/0021-843X.116.3.638>

Wieselquist, J., Rusbult, C. E., Foster, C. A., & Agnew, C. R. (1999). Commitment, Pro-Relationship Behavior, and Trust in Close Relationships. 25

Williams, M., & Emich, K. J. (2014). The experience of failed humor: Implications for interpersonal affect regulation. *Journal of Business and Psychology*, 29(4), 651-668.

<https://doi.org/10.1007/s10869-014-9370-9>

Williams, W. C., Morelli, S. A., Ong, D. C., & Zaki, J. (2018). Interpersonal emotion regulation: Implications for affiliation, perceived support, relationships, and well-being. *Journal of Personality and Social Psychology*, 115(2), 224.

<https://doi.org/1037/pspi0000132>

Wu, J. Y., Hughes, J. N., & Kwok, O. M. (2010). Teacher–student relationship quality type in elementary grades: Effects on trajectories for achievement and engagement. *Journal of school psychology*, 48(5), 357-387.

Xiao, H., Double, K. S., Walker, S. A., Kunst, H., & MacCann, C. (2022). Emotionally Intelligent People Use More High-Engagement and Less Low-Engagement Processes to Regulate Others' Emotions. *Journal of Intelligence*, 10(4), 76.

Zaki, J., & Williams, W. C. (2013). Interpersonal emotion regulation. *Emotion*, 13(5), 803–810. <https://doi.org/10.1037/a0033839>

Zaki, J., Bolger, N., & Ochsner, K. (2008). It takes two: The interpersonal nature of empathic accuracy. *Psychological Science*, 19(4), 399–404. <https://doi.org/10.1111/j.1467-9280.2008.02099.x>

Appendices

APPENDIX A: Chapter 3 Data & Open Science

The below web address contains the data collected and analysed for Chapter 3. Below that is a copy of the AsPredicted preregistration. Following the AsPredicted preregistration is the codebook for the data from Chapter 3.

https://aspredicted.org/blind.php?x=HSL_CMW

<https://osf.io/9m7nh/>

APPENDIX B: Chapter 3 CodeBook

Data Legend

Column	Description
PA_ID	Prolific ID Number
Demo_Age	Age
Demo_Gender	Gender
ER1-ER84	Regulation of Others' Emotions Scale
ChecK <i>n</i>	Manipulation Checks
Relat1-Relat7	Relationship Satisfaction Items 1-7
Romantic_Gender	Gender of the participants romantic partner
ROES_DIRECTACT	Direct Action
ROES_DISTRACT	Distraction
ROES_EXPSUPP	Expressive Suppression
ROES_HUMOUR	Humour
ROES_REAPP	Reappraisal
ROES_SOCSHARE	Receptive Listening
ROES_VALUE	Valuing
RELAT_TOT	Relationship Satisfaction Total Score

APPENDIX C: Chapter 4 Data & Open Science

The below web address contains the data collected and analysed for Chapter 4. Below that is a copy of the AsPredicted preregistration. Following the AsPredicted preregistration is the codebook for the data from Chapter 3.

APPENDIX D: Chapter 4 CodeBook

Data Legend

Column	Description
Couple_ID	The ID linking dyads
Parnter_ID_A	Prolific ID of Partner A
Partner_ID_P	Prolific ID of Partner B
T1A_Demo_Age_A	Age Partner A
T1A_Demo_Age_P	Age Partner P
Attention_1.x_A – Attention_2.x_A	Manipulation Check Partner A
Attention_1.y_P – Attention_2.y_P	Manipulation Check Partner P
T1A_Demo_Gender_A	Gender Partner A
T1A_Demo_Gender_P	Gender Partner P
T1A_ROES_FB_S__1A –	ROES items 1 – 32 Parter A (self-report)
T1A_ROES_FB_S__32A	
T1B_ROES_FB_O__1P –	ROES items 1 – 32 Parter P (informant-report)
T1B_ROES_FB_O__32P	
Length	Relationship length reported by both partners
RelWB_A	Relationship Quality Partner A (self-report)
RelWB_P	Relationship Quality Partner B (self-report)