Extrinsic Emotion Regulation at Work

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Statement of Originality

This is to certify that to the best of my knowledge, the content of this thesis is my own work. This thesis has not been submitted for any degree or other purposes.

I certify that the intellectual content of this thesis is the product of my own work and that all the assistance received in preparing this thesis and sources have been acknowledged.

The research involving human data reported in this thesis was assessed and approved by the University of Sydney Human Research Ethics Committee (HREC). Approvals are as follows:

- Research related to Chapter 2 (Paper 2): HREC2018/528
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This thesis contains material that is published, under revision or has been submitted for review.

Chapter 2 of this thesis is under review as:

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- I led the theorization, design, collection and analysis of the data, and co-wrote the drafts of the manuscript. Authorship is by contribution.

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- I led the theorization, design, and data analysis, and co-wrote the drafts of the manuscript. Authorship is by contribution.

I am a corresponding author for the publications above, except for the publication under revision in *Australian Journal of Management,* for which Professor Shenjiang Mo is the corresponding author. I certify all co-authors have granted permissions to include the papers.

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

Supervisor name: Helena Nguyen

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The regulation of others' emotions has been my research focus for the past four years, but also plays a huge role in my personal life, and the lives of many others. With my background in clinical neuroscience and psychology, I have long been fascinated by how we can influence our own happiness and the happiness of others. I have always been driven by research with a practical focus, and as such, I wanted to conduct my PhD to better understand how we can make the people we work with feel better. Little did I know… The COVID-19 pandemic took place right in the middle of my PhD. As soon as I was ready to start collecting data, we had to isolate and work from home. This was not an easy time for many, including me. As my research in hospitals in Sydney could no longer take place, and I sat at home, the distance between me and my family felt bigger than the ocean separating us. These past four years have highlighted the importance of social connection, and our ability to lift each other up. I have adjusted my PhD research, learned much along the way, met many wonderful people, travelled nationally and internationally, and become more confident as a researcher. I hope this research can help us gain valuable insight into how we can make those around us feel better, as it is truly the little things we do that make a world of difference.

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Abstract

In this thesis, I investigate the processes people use to influence the intensity, timing, type and duration of the emotions of others – referred to as extrinsic emotion regulation. Dealing with others' emotions is a crucial aspect of the work environment, yet despite the increased awareness of the importance of expanding our understanding of extrinsic emotion regulation, there is a dearth of research on the antecedents, mechanisms and outcomes. To extend current knowledge, I conducted five empirical studies, compiled in three research papers. Paper 1 examined whether personality domains influence employees' decision to engage in extrinsic emotion regulation (a meta-analysis of n = 5,609, k = 15; Study 1), as well as the selection of specific regulation strategies in daily life (n = 534; Study 2). Results show that anti- and pro-social personality traits influence the decision to engage whereas emotional personality traits influence strategy selection. Paper 2 examined the influence of goals on strategy selection of Australian co-workers (n = 553) on relational outcomes (team-member exchange and relationship conflict; Study 3). Results show positive indirect effects of pro-hedonic goals on receptive listening and conflict and negative indirect effects of instrumental goals on suppression and both outcomes. An experimental study further supports causal claims of the relationship between goals and extrinsic emotion regulation strategies (n = 398; Study 4). Paper 3 examined the influence of healthcare leaders' (n = 54) regulation of followers' emotions (n = 337) on followers' job satisfaction. Results show positive effects of strategy reappraisal, negative effects of suppression, and the mechanisms through which this takes place (a mediation of affect, and a moderation of followers' ability to cope with change). This thesis advances much-needed knowledge on extrinsic emotion regulation and has important practical implications for the regulation of others' emotions at work.

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Chapter 1. Introduction

Emotions are integral to everyday life. We laugh, we cry, we feel stressed, or jump with excitement. Our workplaces, too, are emotional. Because of the consistent and constant presence of emotions, dealing with our own and others' emotions is an essential element of workplace performance in the modern world. The World Economic Forum's 2020 *The Future of Jobs* report found that two of the top skills of 2025 are 'self-management', including resilience, stress tolerance and flexibility, and 'working with people', including leadership and social influence. Skills that involve the management of social interactions are increasingly in demand, as "emerging professions showcase the continuing importance of human interaction in the new economy" (World Economic Forum, 2020, p. 31).

The phenomenon that underlies these behaviors of managing one's own and others' emotions is *emotion regulation.* Emotion regulation refers to the processes used to influence the intensity, timing, type and duration of emotions that oneself has (*intrinsic emotion regulation*) or that other people have (*extrinsic emotion regulation*) (Gross, 1998, 2015). The goal of a regulation attempt can be to make oneself and/or others feel better (*hedonic regulation*; the up regulation of positive emotions and down regulation of negative emotions) or to feel worse (*contra-hedonic regulation*; the up regulation of negative emotions and down regulation of positive emotions).

To date, the vast majority of research on emotion regulation has focused on intrinsic emotion regulation (e.g., Webb et al., 2012). For example, studies have found that when people effectively regulate their own emotions (intrinsic regulation), they report better mental health (Aldao & Nolen-Hoeksema, 2012), higher job satisfaction (Cote & Morgan, 2002), and lower absenteeism (Nguyen et al., 2016). This indicates that emotion regulation is not only a sought-after work skill, but also crucial to important work and wellbeing outcomes.

Although there is increased awareness of the importance of further examining extrinsic emotion regulation, there is a lack of knowledge on how we can effectively manage others' emotions. Without a proper understanding of extrinsic emotion regulation, workplaces risk suboptimal communication, negative work environments and detrimental outcomes for employees (Johlke & Duhan, 2000) as well as customers, clients, and patients and families (Elfering et al., 2006; Parker & Kulik, 1995). Our current knowledge of extrinsic emotion regulation is limited in several ways.

First, we do not know enough about *who* regulates others' emotions at work (e.g., personality traits and other psychological traits), *why* we do this (e.g., regulation goals), and *how* we do this (e.g., regulation processes used to regulate others' emotions at work). This makes it difficult to develop recommendations or interventions for employers and employees.

Second, there is a lack of understanding about the impact of different extrinsic emotion regulation processes on a range of important outcomes, such as outcomes that relate to the person whose emotions are being regulated (from now on, referred to as 'the target'; *target outcomes*); and outcomes that relate to the relationship between the person doing the regulation (from now on, referred to as 'the actor') and target (e.g., conflict or team member exchange between the actor and target; *relational outcomes*).

Third, the literature on extrinsic emotion regulation is scattered across various disciplines, including psychology, business, sports and education, and relies on different theoretical frameworks and measures (Troth et al., 2018). This has resulted in the use of varied and conflicting terminologies to define and describe the phenomenon. Regulating others' emotions has been referred to as both *interpersonal affect regulation* (Niven et al., 2011), *interpersonal emotion management* (Little et al., 2016) and *extrinsic emotion regulation* (Gross, 2015; Nozaki & Mikolajczak, 2020; Zaki & Williams, 2013). These

inconsistencies complicate integration of existing research, as well as development and application of research findings.

Following the lack of integration and dearth of empirical studies, there is an absence of synthesized knowledge on extrinsic emotion regulation in the work context. To aid employers and employees, integrated and domain specific application of extrinsic emotion regulation in the work context is necessary to advance knowledge in the field, and to facilitate managerial applications to enhance wellbeing at work. For example, when we know which strategies are beneficial to use and when to best use them, we can provide information to management about what to do and what to avoid. This thesis examines the effects of extrinsic emotion regulation on the target (target outcomes) and on the relationship between the actor and target (relational outcomes). Specifically, the thesis addresses the following three research questions.

1.1. Research Questions

1) **Who regulates? Which psychological characteristics lead to extrinsic emotion regulation?**

To find out *who* regulates others' emotions, I consider characteristics of the actor. I consider personality, emotional intelligence, and other emotion-relevant traits that might lead to differences in the types of extrinsic emotion regulation processes the actor uses. I focus on these traits specifically, as research has shown that personality traits (such as conscientiousness and agreeableness; John & Srivastava, 1990) and emotional intelligence are important drivers of the selection of processes we use to regulate our own emotions (Barańczuk, 2019; Hughes et al., 2020; Peña-Sarrionandia et al., 2015). It is expected these findings extend to extrinsic emotion regulation, but this has not yet been examined.

2) **Why regulate? Which regulation goals trigger extrinsic emotion regulation?**

To find out *why* individuals regulate others' emotions, I consider the regulatory goals actors have. Drawing on the motivated regulation literature (Eldesouky & English, 2019), I investigate whether pro-hedonic goals (i.e., to make someone feel better), pro-social goals (e.g., to avoid conflict), impression management goals (e.g., to keep up appearances), and instrumental task goals (e.g., to get work done) lead to differences in the types of extrinsic emotion regulation processes actors use.

3) **What is the outcome of regulating? Do extrinsic emotion regulation processes influence target and relational outcomes at work?**

I examine work and wellbeing outcomes as rated by targets in terms of target outcomes (i.e., job satisfaction) and relational outcomes (i.e. relationship conflict, social exchange). To find out *how* extrinsic regulation influences these outcomes, I consider an affective mechanism (e.g., changes in positive or negative affect following extrinsic emotion regulation).

1.2. Structure of the Thesis

This thesis was conducted during the COVID-19 pandemic and captures work contexts during a time when emotions and emotion regulation were particularly relevant. Five studies reported in three papers examine extrinsic emotion regulation: paper 1 in Chapter 2 reports a meta-analysis and a 7-day daily diary study, on the relationship between personality traits and extrinsic emotion regulation; paper 2 in Chapter 3 investigates extrinsic emotion regulation as a predictor of workplace relational outcomes amongst co-workers, supplemented with an experimental manipulation of regulation goals; and paper 3 in Chapter 4 investigates leaders' extrinsic emotion regulation and how it impacts followers' job satisfaction. To be able to better understand the phenomenon of extrinsic emotion regulation,

a literature review is provided in the rest of this chapter, then the three papers are presented. Following each paper, a brief summary is included to help guide the reader through the thesis. Finally, a general discussion and conclusion of the three papers is provided in Chapter 5.

1.3 Philosophical Approach of the Thesis

The onthology, epistemology, and methods of this thesis follow the philosophical perspective of positivism. Positivism is grounded in the view that knowledge should be derived from facts, and should be arrived upon by observation (Chalmers, 1999). The ontology (i.e., the view of the nature of reality) of positivists is that there is a true, observable reality. The epistemology (i.e., how the reality and the relationship between – in this case - the researcher and the participant is known) outlines that knowledge is objective and universal. Building on dualism, the researcher is viewed as independent of the research participant and the relationships that are examined, and 'truth' can be established via falsifiable and replicable research efforts (Teller, 2019). As such, positivists use the hypothetico-deductive method to discover the 'rules' that govern our world, with the aim to explain, predict and possibly even control the natural world (Ponterotto, 2005). Throughout this thesis, I rely on a-priori formulated hypotheses, and analyze my quantitative data with inferential statistics to test these hypotheses (Kivunja & Kuyini, 2017).

Positivism is not without critique: it has been argued that knowledge can never be truly objective, because observations are always subject to the researchers' social, political, historical, and personal context. Additionally, some nuances and complexity of social phenomena may not be captured using quantitative data and inferential statistics. At the same time, a positivist approach can aid consolidation of theory by relying on quantitative methods, focusing on related variables, and refining and improving knowledge through hypothesis testing and verification. I am not of the opinion that there is one best approach to

conducting research, especially as what constitutes to the definition of 'best' is linked to someone's paradigmatic or philosophical conviction (Kuhn, 1962). Accordingly, the research questions and methods in my thesis are guided by my positivist paradigmatic view established through my education (to establish its 'legitimacy as a science', psychological research has been heavily positivist-focused) and the discipline I am a part of (in various disciplines, a positivist approach is maintained through academic 'best practice' guidelines, funding opportunities and journal publication regulations; Morrow, 2007).

2. Literature Review

Emotions have been defined as a response to environmental demands (Scherer & Moors, 2019), helping us to direct our attention and preparing us to act. Although the terms *mood*, *affect* and *emotion* are often used interchangeably, conceptually, moods and emotions are distinguished by intensity, duration and diffuseness (Weiss, 2002). Both are affective states, but moods tend to last longer, be less intense, and often happen without awareness of a distinct cause, whereas emotions are more intense, short-lived, and more noticeably linked to a cause or event (Frijda, 1986). 'Affect' has been used as a broader umbrella term to encompass both an emotion or a mood (Cropanzano et al., 2003), and has been represented using dimensional approaches. One well-known example is the circumplex model of affect (Russell, 1980), which proposes that affect can be understood as a combination of two dimensions: valence and arousal/activation. The valence dimension captures how pleasant or unpleasant an emotion is, for example, miserable (low valence) or delighted (high valence). The arousal or activity dimension captures the intensity of the state, or how 'activated' the individual is, ranging for example from calm (low activation) to alert (high activation). Watson and Tellegen (1985) built on the circumplex model of affect by drawing two new dimensions, which they categorized as positive and negative affect (Watson & Clark, 1984;

Watson & Tellegen, 1985). Affect can also be measured as a 'trait' (a general predisposition) or a 'state' (a momentary experience).

Research on emotions at work is not new, with some of the early research stemming from the 1930s (Elfenbein, 2023). Over the last decade, research on emotion processes between individuals, in teams and in leader–follower dyads has become more prominent in the organizational literature (e.g., Ashkanasy & Dorris, 2017; Kelly & Barsade, 2001; Morris & Feldman, 1997). Various theories and constructs exist, exploring how emotions and social interactions influence the work environment. To be able to understand the progression of this literature, and where the fairly nascent field of extrinsic emotion regulation sits, I broadly discuss the evolution of theory and research on emotions and emotion regulation at work. The following sections are organized based on the progression of time and the development of the research. I first discuss the most often-used theories of emotion and emotion regulation at work in section 2.1 to 2.5. I then outline the conceptualization and operationalization of extrinsic emotion regulation in section 3. Finally, I summarize findings on intrinsic emotion regulation in section 4, focusing on the three research questions addressed in this thesis.

2.1. Theories on Emotion and Emotion Regulation

2.1.1. Affective Events Theory

One of the most well-known theories on the role of affect at work is Weiss and Cropanzano's (1996) Affective Events Theory. At the core, work environment features and work events are theorized to influence employees' work attitudes, in turn influencing work behaviors, through the 'affect drive' or the 'judgment drive'. Weiss and Cropanzano posited that affective states are proximal antecedents to job satisfaction and related outcomes, such that changing affective states has a flow-on effect through to attitudes or behaviors at work (Weiss & Cropanzano, 1996). That is, affective experiences at work influence how employees feel. Accordingly, the judgments employees have about how satisfied they are

with their job situation and how they behave at work predict job satisfaction and other outcomes. Research building on Affective Events Theory indeed supports the influence of affective events on job satisfaction (Mitchell, 2011), and leader–member exchange (Cropanzano et al., 2017). While the influence of regulating our own or others' emotions on important work outcomes can be explained using Affective Events Theory, this theory does not explicitly discuss the process, conceptualization and operationalization of emotion regulation.

2.1.2. Emotional Labor

In the work literature, a prominent theory on emotion regulation is emotional labor (Grandey, 2000, 2005; Hochschild, 1983). Hochschild (1983) defined emotional labor as an emotion regulation process where employees regulate their own emotions within 'interpersonal encounters' in order to adhere to organizationally prescribed display rules. This approach divides emotion regulation into *deep acting* (i.e., regulating feelings to actually experience the required emotion, by modifying the perception of a situation, for example by perspective taking or attentional deployment) and *surface acting* (i.e., modulating reactions to the situation, by suppressing, intensifying or faking emotions, without changing the underlying emotion). Emotional labor is inherently effortful and has been linked to important work outcomes, where deep acting is generally associated with more positive or desired work outcomes, and surface acting is generally associated with negative or less desirable work outcomes (Bono & Vey, 2005). For example, deep acting has been linked to greater display of positive affect and greater self-rated job performance in customer service roles (Totterdell & Holman, 2003), whereas surface acting has been linked to reduced trust during negotiations (Côté et al., 2013).

Emotional labor is conceptualized as an intrinsic rather than extrinsic process because it focuses on how we regulate and display our own emotions, and not the emotions of others.

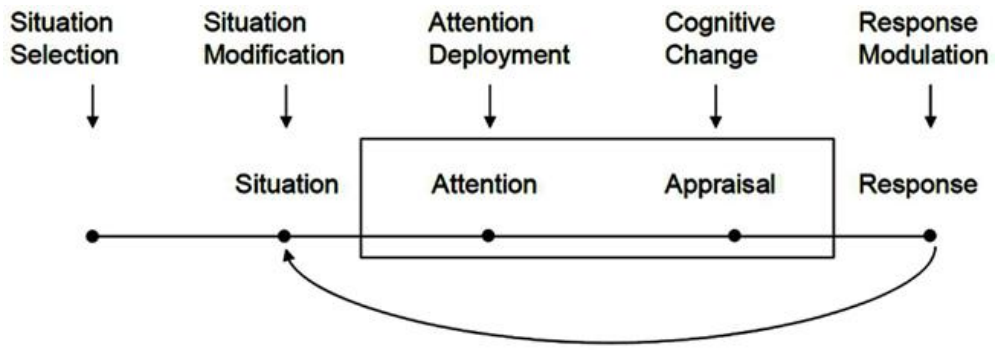
Although deep acting and surface acting can be operationalized through various different strategies (for example, people can surface act by suppressing the emotions they express on their face), these strategies are not separately defined or examined. While the concept of emotional labor is helpful in distinguishing between processes broadly related to the experience of genuine emotions versus the faking of emotional states in organizational settings, it obscures a more nuanced understanding of the particular strategies we use both at work, and in our daily life, and does not address the regulation of *others'* emotions.

2.1.3. Modal Model, Process Model and Extended Process Model

By far the most specific and applied research on emotion regulation to date has been based on Gross's influential Modal Model of Emotion, Process Model of Emotion Regulation, and Extended Process Model of Emotion Regulation (Gross, 1998, 2015). The Modal Model suggests that the process of emotion generation occurs in a particular sequence over time, namely from someone's situation, to attention, appraisal, and response (see Figure 1).

Figure 1

Gross' Modal Model



Note. Gross's model of emotion generation and regulation (Gross & Barrett, 2011, p. 12 (Figure 3B))

The Extended Process Model builds on the Modal Model to describe how regulation processes may affect this sequence. Gross proposes three main stages of the emotion regulation cycle: identification, where an individual identifies whether they will regulate emotions; selection, where an individual identifies which strategy they will use; and implementation, where an individual applies the regulation strategy. According to the Process Model, emotions can be regulated by five different types of process 'families': a) *situation selection processes*, where an individual decides whether or not to engage in a situation eliciting an emotion, such as avoidance of the situation or confronting the stimulus that elicits the emotion; b) *situation modification processes*, where an individual acts to influence the situation, such as direct situation modification – changing the situation – or seeking social support from others; c) *attentional deployment processes*, where an individual targets the focus of attention, such as distracting themselves or ruminating about the situation; d) *cognitive change processes*, where an individual attempts to change their cognitions, such as cognitive reappraisal where they try to see the situation in a more positive light, or distancing themselves to not think about their situation; and e) *response modulation processes*, where the individual influences the response they have to the emotion stimulus, such as expressive suppression, where they do not show their emotions on their face, or social sharing, where they vent about the situation to someone else.

Gross (2015) argues that the Extended Process Model applies to both intrinsic emotion regulation (regulating our own emotions) as well as extrinsic emotion regulation (regulating others' emotions). However, to date, the vast majority of emotion regulation literature has examined *intrinsic* regulation. There are various reasons for this, including that the regulation of our own emotions is easier to examine. It is more complicated to examine the regulation of emotions in social interactions. We can regulate others' emotions (extrinsic regulation), but we can also seek social interactions to change our own emotions, sometimes

referred to as intrinsic interpersonal emotion regulation (Zaki & Williams, 2013). Table 1 helps clarify the differentiation in whose emotions are being regulated (*target*), and who is doing the regulation (*actor*). Gross (2015) outlined that the Extended Process Model applies to both intrinsic and extrinsic regulation, yet argued that "more work needs to be done—both theoretically and empirically—to figure out how to best apply the EPM [Extended Process Model] to extrinsic emotion regulation, and to determine similarities and differences between intrinsic and extrinsic regulation" (p. 133).

Table 1

Differentiation of intrinsic, intrinsic interpersonal, and extrinsic emotion regulation, when two individuals are involved

Who is doing the regulation?	Whose emotions are being regulated?	
	Self (my emotions are regulated)	Other (other's emotions are regulated)
Self (I regulate emotions)	Intrinsic emotion regulation (I regulate my own emotions, e.g., *when I want to feel more positive emotion, I change the way I'm thinking about the situation*)	Extrinsic emotion regulation (I regulate someone else's emotions, e.g. *To make someone else feel better, I help them to see their situation in a more positive light)*
Other (Other person regulates emotions)	Intrinsic interpersonal emotion regulation (I seek out someone who can regulate my emotions, e.g. *I look to others for comfort when I feel upset)*	– *

Note. Based on Gross's (2015) definitions of emotion regulation. *The fourth quadrant is empty on purpose: when the other person's emotions are regulated by the other person, this is intrinsic regulation.

2.1.4. Taxonomy of Controlled Interpersonal Affect Regulation

The most influential theoretical model on extrinsic emotion regulation – the Taxonomy of Controlled Interpersonal Affect Regulation Strategies – was developed (and empirically tested) by Niven et al. (2009). This taxonomy is largely based on Gross's work and focuses explicitly on extrinsic emotion regulation. Niven et al.'s taxonomy structures

extrinsic emotion regulation processes into four different families based on crossing two distinctions – goal by focus. The 'goal' dimension of emotion regulation can be pro-hedonic (i.e., to make someone feel better; affect improving) versus contra-hedonic (i.e., to make someone feel worse; affect worsening). The 'focus' dimension distinguishes between target-focused processes (the target's emotional state or context) versus relationship-focused processes (the target–regulator relationship). This goal-by-focus taxonomy delineates two families of affect improving processes (positive engagement and acceptance) and two families of affect worsening processes (negative engagement and rejection). Each family contains multiple regulatory processes (i.e., emotion regulation strategies). For example, negative engagement involves two processes: behavioral engagement (pressuring the target: changing their environment to manipulate their behavior and thereby worsening their feelings) and affective engagement (guilting the target: making them think something they did was morally wrong, emotionally hurtful, or bad in order to worsen their feelings; see Table 2). Although the classification scheme proposes four families of emotion regulation, and various extrinsic emotion regulation strategies, the most-often used self-report measure based on this scheme distinguishes only between global extrinsic 'affect improving' versus 'affect worsening' and does not measure the larger number of emotion regulation processes. Because of this, most research on extrinsic emotion regulation to date has broadly distinguished between affect improving and affect worsening other regulation, but not more specific strategies.

Table 2

Final Classification of Controlled Interpersonal Affect Regulation Strategies

	Strategies to improve affect	Strategies to worsen affect
Engagement strategies	Positive engagement Affective engagement: Directly trying to improve the way the target feels about a situation, e.g., allowing the target to vent. *Problem-focused strategies*, e.g., listening to the target's problems *Target-focused strategies*, e.g., pointing out the target's positive characteristics. Cognitive engagement: Trying to change the way the target thinks about a situation in order to improve the target's feelings, e.g., giving the target advice.	Negative engagement Affective engagement: Directly trying to worsen the way the target feels about a situation, e.g., explaining how the target has hurt someone. Behavioral engagement: Trying to change the way the target behaves in relation to a situation in order to worsen the target's feelings, e.g., complaining about the target's behavior.
Relationship-oriented strategies	Acceptance Attention: Giving the target attention to communicate validation, e.g., making it clear that you care about the target *Valuing*, e.g., making the target feel special. *Distraction*, e.g., arranging an activity for the target. Humor: Being humorous towards the target to communicate validation, e.g., joking with the target.	Rejection Rejecting the target's feelings: Rejecting the target's feelings to communicate snubbing, e.g., making it clear that you do not care how the target feels. *Confrontational strategies*, e.g., being rude to the target. *Nonconfrontational strategies*, e.g., ignoring the target. Putting one's own feelings first: Putting one's own feelings first to communicate snubbing, e.g., sulking around the target.

Note. Niven et al.'s classification of Controlled Interpersonal Affect Regulation Strategies (Niven et al., 2009, p. 507 (Table 3)).

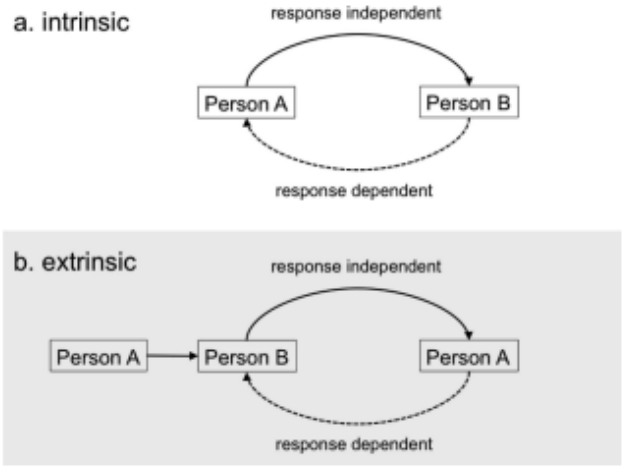
2.1.5. Quadratic Framework of Emotion Regulation

In an attempt to integrate the existing work on both intrinsic and extrinsic emotion regulation into one framework, Zaki and Williams (2013) developed a quadratic framework

of emotion regulation. This 4x4 framework divides emotion regulation into intrapersonal versus interpersonal regulation, and response-dependent versus response-independent processes. Intrapersonal regulation does not involve another person, whereas interpersonal regulation does. Intrapersonal and interpersonal regulation in turn can be intrinsic or extrinsic. For example, Zaki and Williams (2013, p. 804) defined the distinction between intrinsic and extrinsic interpersonal regulation in the following manner: "By intrinsic interpersonal regulation, we refer to episodes in which an individual initiates social contact in order to regulate his own experience; by extrinsic interpersonal regulation, we refer to episodes in which a person attempts to regulate another person's emotion." Response-dependent processes depend on the quality or skills of the actor (e.g., you feel better because the other person responds in a certain way), whereas response-independent strategies do not rely on the actor to be effective (e.g., you label your own emotions while interacting with the other, which helps regulate your own emotions). However, Zaki and Williams also argue that the intrinsic and extrinsic interpersonal processes are 'orthogonal' to response-dependent and response-independent processes, and as such they argue that their framework creates a 2x2 matrix of regulation processes (see Figure 2).

Figure 2

Zaki and Williams' Quadratic Framework of Emotion Regulation



Note. Zaki and Williams' proposed interpersonal regulatory processes as viewed from the perspective of two individuals (Zaki & Williams, 2013, p. 805 (Figure 1)).

Although Zaki and Williams' (2013) framework attempts to integrate existing theoretical work, the practical application of this framework is limited due to the nature of the 4x4 and the 2x2 matrix. In trying to simplify the process of emotion regulation into one simple, accessible framework, this approach lacks crucial nuances and considerations. As Zaki and Williams' framework does not include emotion regulation strategies, the framework does not allow insights into what exactly it is people do when we regulate our own or others' emotions.

This thesis draws predominantly on Gross's (2015) theory and Niven et al.'s (2009) taxonomy. Adopting Gross's terminology, the thesis predominantly uses the term extrinsic emotion regulation to refer to the processes people use to regulate the emotions of other individuals. However, this term can be used interchangeably with Niven et al.'s (2009) term interpersonal emotion regulation. The term interpersonal emotion regulation is used instead of extrinsic emotion regulation in Chapter 3, as Paper 2 was submitted to a special issue on

‘interpersonal emotion regulation’. The next section discusses the conceptualization and operationalization of extrinsic emotion regulation, and outlines how extrinsic emotion regulation differs from other, related constructs in the field of emotion research at work.

2.2. Conceptualization of Extrinsic Emotion Regulation

Nozaki and Mikolajczak (2020) recently reviewed what is known about extrinsic emotion regulation. They outlined that extrinsic emotion regulation has three core features. First, extrinsic regulation happens through goal setting, where the goal defines the desired outcome. This sets extrinsic emotion regulation apart from the automatic sharing of emotions that occurs in groups, which is referred to as emotional contagion (Barsade & Gibson, 2012). Emotional contagion happens largely through subconscious mechanisms and relies on automatic processes and physiological responses. This includes, for example, a person spontaneously mimicking another’s facial expressions, postures and vocalizations. Research has shown that emotional contagion influences group cooperative behavior, group conflict, and task performance (Barsade & Gibson, 2012). Nozaki and Mikolajczak (2020, p. 4) outline that goal setting differentiates extrinsic emotion regulation from emotional contagion, as “this interpersonal process [emotional contagion] can happen without the activation of the ER [extrinsic emotion regulation] goal on the part of the influencer, even though his/her emotion influences another person’s emotion as a result”.

Second, extrinsic emotion regulation can increase positive or negative emotions, or decrease positive or negative emotions. For example, a leader can decide to make their followers feel better, so they are motivated to finish their work, or may make them feel stressed to achieve the same goal. This helps differentiate extrinsic emotion regulation from constructs like social support, as Nozaki and Mikolajczak (2020, p. 5) argue that even though “social support can be used to perform extrinsic emotion regulation, it is principally for

hedonic motives (i.e., to alleviate the regulatees' [target's] negative emotions and make them feel better). By contrast, extrinsic emotion regulation can include counter-hedonic actions".

Third, the actor must act to influence the target's emotions. When a co-worker wants someone at work to feel better, they will use a specific regulation strategy, such as reappraisal (helping them reframe their situation in a more positive light), or situation modification (offering help or assistance to change the situation). This feature sets extrinsic regulation apart from empathy, as feeling empathy does not necessarily link to regulatory acts. Moreover, this feature differentiates extrinsic emotion regulation from emotional intelligence. Emotional intelligence comprises a set of cognitive abilities related to recognizing, understanding and managing emotional information (Mayer et al., 2016). Emotional intelligence in the workplace helps employees treat emotions as valuable data they can use to navigate various situations. For example, a sales manager high in emotional intelligence might come up with a great business strategy but, knowing their boss to be grumpy in the morning, may bring it up during the afternoon meeting instead (Barsade & Gibson, 2007). Employees with high emotional intelligence are more likely to add to a positive organizational climate (Ashton-James & Ashkanasy, 2005), have stronger interpersonal relationships (Lopes et al., 2003) and better work outcomes (O'Boyle Jr et al., 2011). Most emotional intelligence measures include the cognitive ability of regulating one's own and others' emotions (e.g., Mayer, 2002), but do not consider the specific actions of the actor, the third feature of extrinsic emotion regulation. That is, an individual's emotional intelligence can offer insight into how good the person is at regulating emotions, but does not tell us how exactly they regulate emotions.

Nozaki and Mikolajczak (2020) mentioned that, similarly to the regulation of our own emotions (intrinsic emotion regulation), it is expected that certain extrinsic emotion regulation strategies are better to use depending on the situation or goal, and that a regulation

strategy's effectiveness depends on the situation as well as personality characteristics (Nozaki & Mikolajczak, 2020). However, Nozaki and Mikolajczak outlined that intrinsic and extrinsic regulation cannot be equated, and findings from intrinsic emotion regulation need to be extended to extrinsic regulation. The following section outlines how extrinsic emotion regulation has been operationalized in research, and how it is operationalized in the three thesis research papers.

2.3. Operationalization of Extrinsic Emotion Regulation

2.3.1. Managing the Emotions of Others Scale (MEOS)

Austin and O'Donnell (2013) developed a self-report scale to measure how we manage the emotions of others, the Managing the Emotions of Others Scale (MEOS), based on the emotional intelligence literature. The MEOS measures six factors: mood enhancing (e.g., offering help or reassurance, allowing others to express their feelings), mood worsening (e.g., criticizing, displaying anger), concealing emotions from the other (e.g., hiding feelings from others), using inauthentic displays of emotion for self-serving purposes (e.g., flattery, sulking, inducing guilt), poor emotion skills (e.g., inability to change others' mood) and diversion to enhance another's mood (e.g., being positive, using humor). Most research using the MEOS has broadly focused on mood enhancing, inauthentic display and mood worsening as overarching processes of extrinsic emotion regulation (e.g., Austin & Vahle, 2016; Austin et al., 2018; Jankowski, 2016; Thiagaamudhan, 2019). The MEOS subscales of mood enhancing and mood worsening most closely align with Gross's conceptualization of emotion regulation, whereas inauthentic display links to emotional labor, and poor emotion skills relate more to emotional intelligence abilities. Although the mood enhancing and mood worsening subscales are insightful in distinguishing regulation to make others feel better or worse, it does not consider the specific strategies individuals use.

2.3.2. Emotion Regulation of Others and Self (EROS)

Building on Niven et al.'s (2009) Taxonomy of Controlled Interpersonal Affect Regulation Strategies, Niven et al. (2011) developed the self-report Emotion Regulation of Others and Self Scale (EROS). Where Niven et al.'s original taxonomy proposes four families of emotion regulation processes (i.e., specific strategies for regulating emotions), the EROS distinguishes only between affect improving versus affect worsening extrinsic emotion regulation: intrinsic affect improving, intrinsic affect worsening, extrinsic affect improving, and extrinsic affect worsening. The EROS is one of the most often-used measures of extrinsic emotion regulation, but similar to the MEOS, the EROS does not delineate the specific strategies individuals use.

2.3.3. Interpersonal Emotion Management (IEM)

Building on Gross's (2015), Zaki and Williams' (2013), and Niven et al.'s (2009) work, Little et al. (2015) developed the self-report Interpersonal Emotion Management (IEM) scale. Proposing four specific strategies for extrinsic emotion regulation with a work focus, the IEM includes situation modification ("*I change the situation to alter its emotional impact")*, attentional deployment ("*I distract others from focusing on the negative aspects of that situation"),* cognitive change ("*When I want others to feel more positive emotions, I put their problems into perspective")* and modifying the emotional response ("*When others are experiencing undesirable emotions, I suggest strategies for them to suppress these emotions").* Although this measure specifies four specific extrinsic emotion regulation strategies, the measure still does not contain all the families of strategies that correspond to Gross's (2015) Extended Process Model. For example, there are no strategies reflecting the situation selection stage of emotion regulation.

2.3.4. Regulating Others' Emotions Scale (ROES)

To achieve greater granularity, MacCann et al. (2018) developed the Regulating Others' Emotions Scale (ROES). Building on both Gross's (2015) and Niven et al.'s (2009, 2011) work, this self-report scale was designed to measure various specific extrinsic emotion regulation strategies. The ROES contains eight strategies focused on making another person feel less negative emotion, or more positive emotions (affect improving extrinsic regulation), which align with Gross's process families (cognitive change, response modulation, attentional deployment, and situation modification). For a description of these strategies, see Table 3. This scale is the most specific in considering various extrinsic emotion regulation strategies to date.

2.3.5. Qualitative and Experimental Approaches

Finally, some studies have examined extrinsic emotion regulation without relying on self-report measures. Qualitative research on extrinsic emotion regulation can be found mostly in sports literature, and relies on observations and interviews (e.g., Braun & Tamminen, 2019; Campo et al., 2017). Additionally, some experimental research has been conducted. For example, Nozaki (2015) used an in-lab methodology, where participants were asked to play a virtual 'ball-toss' game. Extrinsic emotion regulation was operationalized as tossing the ball to an ostracized person (i.e., a person in the game who would never get the ball tossed to them). Players received a virtual ball (thrown to them) and could pick a participant to throw the ball to accordingly. This paradigm manipulates group inclusion and exclusion, and manipulated emotions in this way.

Although lab-based research such as Nozaki (2015) is important in testing causality, findings may not generalize to real-life extrinsic emotion regulation at work. Extrinsic emotion regulation involves two individuals who can have different understandings, beliefs and opinions about the interaction that took place. Ideally, research should incorporate dyadic

designs (involving both the actor and the target) to capture what happens during emotion regulation from the perspective of both individuals involved (Dixon-Gordon et al., 2015). This can be difficult to capture using qualitative and experimental designs, whereas self-report measures are easier to implement, and more easily facilitate dyadic designs where both individuals conduct a self-report survey reflecting on their interpersonal interaction. Because of the greater granularity and practical application of the ROES, this thesis uses the ROES (MacCann et al., 2018) to measure extrinsic emotion regulation in the three research papers.

Table 3

Extrinsic Emotion Regulation Strategies (ROES)

Regulation Strategy	Process Family	Definition	Example
Expressive Suppression	Response Modulation	Encouraging the target to avoid showing their emotion in their facial expressions, body language, or tone.	Telling a frustrated employee to turn their frown into a smile.
Downward Social Comparison	Cognitive Change	Altering the target's frame of reference by comparing their situation to someone who is worse off.	Reminding a co-worker who is disappointed they did not receive a promotion that they still have a job.
Humor	Attention Deployment	Using humor to make the target feel better.	Telling a light-hearted joke to an upset employee.
Distraction	Attention Deployment	Diverting the target's attention away from the elements of the situation causing their emotion.	Asking an anxious co-worker to have lunch with you before a big interview.
Direct Situation Modification	Situation Modification	Changing the target's situation to alter its emotional impact.	Trying to fix a stressed supervisor's computer after it crashed.
Positive Reappraisal	Cognitive Change	Encouraging the target to think about the situation differently to alter its emotional impact.	Reassuring an upset employee that a client did not become angry with them because of something they said, rather that the client must be frustrated about a personal issue.
Receptive Listening	Response Modulation	Listening to the target verbalize their emotion in a socially shared language (e.g., allowing the target to describe the emotion-eliciting event).	Allowing an angry supervisor to vent about another co-worker who has been constantly making mistakes.
Valuing	Cognitive Change	Making the target feel special or valued.	Telling a disheartened employee how appreciative you are of all their hard work.

Note. Process Families based on Gross (1989, 2015). Extrinsic Emotion Regulation strategies as measured by the ROES (MacCann et al., 2018).

2.4. Findings on Intrinsic Emotion Regulation

As mentioned previously, most of the research on emotion regulation to date has focused on the regulation of one's own emotions, defined as intrinsic emotion regulation. As much less is currently known about extrinsic emotion regulation, findings on intrinsic emotion regulation can help inform hypotheses on the use, mechanisms and effectiveness of extrinsic regulation. Additionally, to be able to evaluate the similarities and differences between intrinsic and extrinsic emotion regulation, current findings on intrinsic regulation that are relevant to the three main research questions of this thesis are discussed below.

2.4.1. Who? Psychological characteristics and intrinsic emotion regulation

Individuals' use of regulation processes is related to both person and situation factors. Meta-analyses have found both emotional intelligence and personality domains to be related to intrinsic emotion regulation (Connor-Smith & Flachsbart, 2007; Peña-Sarrionandia et al., 2015). Certain personality domains have been linked to individuals' choice or preference of intrinsic emotion regulation strategy use. People high in agreeableness, conscientiousness and extraversion have been found to be more likely to use problem solving, social support and cognitive restructuring processes, whereas people high in neuroticism are less likely to use problem solving and cognitive restructuring to regulate their own emotions (Connor-Smith & Flachsbart, 2007). Likewise, emotional intelligence has been found to relate to the regulation strategies people use: people high in emotional intelligence are more likely to modify their situation by using problem solving and conflict resolution strategies, and apply self-efficacy cognitive change (i.e., shifting cognitions to believe in one's own abilities to deal with various situations*;* Peña-Sarrionandia et al., 2015). This indicates that individual difference variables influence the selection stage of the intrinsic emotion regulation cycle and the choice of which

regulation strategy to use on the self. It is likely that this extends to the selection of the strategies people use to regulate other people's emotions, but this has not yet been examined.

2.4.2. Why? Regulation goals and intrinsic emotion regulation

Regulation goals (Sheppes et al., 2014) and situational and social context influence the use of different intrinsic regulation processes (English, Lee, John & Gross, 2017; Haines et al., 2016). Regulation goals are the reasons why people decide to regulate emotions (Sheppes et al., 2014). Different regulation goals have been found to relate to the use of different intrinsic emotion regulation processes. For example, if a situation is expected to be encountered multiple times, it is better to use reappraisal processes, leading to gradual adaptation. If a situation is encountered only once, distraction processes may provide sufficient short-term relief. These are *motivational goals.* Another main goal of emotion regulation is to maximize or maintain positive emotions, or minimize negative emotions. These are *hedonic goals*, for which people tend to use distraction and reappraisal processes more. These processes are also used for *instrumental goals,* like getting work done (Sheppes et al., 2014). Bindl et al. (2022) progressed this research and developed a framework of motivated affect regulation specifically focused on work, including hedonic, task related and social motivated affect regulation. Hedonic motivation is driven by an employee's desire to feel good. Task related motivation is an instrumental goal, where employees regulate their emotions to achieve better task related outcomes at work. Social motivation here refers to "employees' desire to improve their feelings to improve or maintain their interpersonal relationships with others at work" (2022, p. 4). Bindl et al.'s (2022) findings indicated that hedonic and task related intrinsic regulation was related to higher performance-oriented outcomes. Use of specific intrinsic regulation processes is also tied to context. When others are present, especially unfamiliar people, people are more likely to use avoidance and

suppression processes. When people trust each other, they are less likely to suppress emotions (English et al., 2017). It is likely that regulation goals influence the selection of the extrinsic process families (i.e., specific extrinsic emotion regulation strategies), but this has not yet been examined.

2.4.3. How? The effectiveness of different intrinsic emotion regulation processes

Where factors like our personality traits and social situation influence which intrinsic regulation strategy we use, we may also be guided by the effectiveness of these strategies. Meta-analyses have shown that some intrinsic regulation processes are more effective than others, and some emotions can be regulated more effectively than others. For instance, the use of perspective taking is effective for reducing negative emotions, whereas expressive suppression and rumination are less effective (Webb et al., 2012). Webb et al. also found that regulation attempts produce larger decreases in sadness than in other negative emotions such as anger, fear or disgust. When looking at the effect of processes on positive and negative affect globally, emotion suppression and rumination processes increase negative affect and decrease positive affect, whereas reappraisal, distraction and social sharing increase positive affect (Brans et al., 2013). The processes can accordingly be classified as adaptive and maladaptive, and their use is linked to valued outcomes. Adaptive intrinsic emotion regulation reduces interpersonal conflict and stress, which is linked to higher job performance of salespeople (Mulki et al., 2015), whereas maladaptive intrinsic emotion regulation has been linked to burnout in undergraduate students (Seibert et al., 2017). We do not know whether these findings on process effectiveness can be extended to extrinsic emotion regulation.

3. Thesis Structure

Gross (2015) outlined that the Extended Process Model applies to both intrinsic and extrinsic regulation but that more work needs to be done to examine the application of the Extended Process Model to extrinsic emotion regulation, and to determine similarities and differences between intrinsic and extrinsic regulation. Similarly, Nozaki and Mikolajczak (2020, p. 11) noted: "ER [extrinsic emotion regulation] has much in common with intrinsic ER [emotion regulation]" … "The underlying process can be depicted by the extended process model. However, these two cannot be equated. Extrinsic ER becomes complicated because another person has to be considered, who often has a different personality and situation." Answering these calls, three research papers, including a total of five empirical studies, were conducted to examine the three research questions previously identified. The three papers included in this thesis contribute to the theory of Gross' Extended Process Model (2015) by examining differences and similarities between intrinsic and extrinsic regulation, and in doing so, help provide a more comprehensive picture of extrinsic emotion regulation in the work context. Additionally, this thesis makes a significant contribution to Conservation of Resources (COR; Hobfoll et al., 1989; 2011) theory by operationalising extrinsic emotion regulation as a resource-infusing activity in paper 3, and to Team-Member Exchange (TMX; Herman et al., 2008) theory by examining extrinsic emotion regulation as a novel and important predictor of high-quality co-worker relationships in paper 2.

Paper 1: *Who Am I to Regulate Your Emotions? A Meta-Analysis and Daily Diary Study on Personality and Extrinsic Emotion Regulation*

This paper presents two studies. **Study 1** is a meta-analysis to consolidate the findings from the literature on the relationship between personality (Big Five/Five Factor/HEXACO,

emotional intelligence, Dark Triad) and the tendency to engage in emotion regulation, specifically whether personality traits make a difference to the tendency to engage in global affect improving extrinsic regulation and affect worsening extrinsic regulation.

Building on Study 1, **Study 2** investigates the influence of personality (Five Factor, emotional intelligence, Dark Triad) on 12 specific extrinsic emotion regulation strategies in daily life in a general population sample, using a daily diary study. This study offers more ecological validity than exists within the current literature and provides more precision and greater nuance in understanding the relationship between personality traits and extrinsic emotion regulation.

Paper 2: ***Does It Matter Why We Try? How Goal-focused Interpersonal Emotion Regulation of Co-workers Influences Relational Dynamics***

As part of this second paper, **Study 3** investigates whether the actors' regulation goals (pro-hedonic and instrumental) influence target-rated interpersonal outcomes relationship conflict and team member exchange, using dyadic data collected from working students and their co-workers.

To test for causality and endogeneity of the influence of different regulation goals on extrinsic emotion regulation strategy choice, **Study 4** conducts an online experimental manipulation that examines the influence of regulation goals on strategy selection.

Paper 3: ***Who Cares for Those Who Care? The Role of Healthcare Leaders' Regulation of Followers' Emotions on Follower Job Satisfaction***

This paper presents **Study 5.** This final study investigates the influence of leaders' extrinsic regulation on followers' job satisfaction, mediated through changes in followers' affect,

moderated by followers' capacity to cope with change at work, using dyadic data from leaders and followers in a hospital in China.

These three papers with the five empirical studies provide much-needed insights into who, when and how people regulate others' emotions at work, and will be discussed in Chapters 2, 3 and 4. Following each paper, a brief summary is included to help guide the reader through the thesis. Finally, a general discussion and conclusion of the three papers is provided in Chapter 5.

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Chapter 2. Who am I to regulate your emotions?

Who am I to regulate your emotions?

A meta-analysis and daily diary study on personality and extrinsic emotion regulation

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Abstract

Personality domains relate to the processes we use to influence the intensity, type, and duration of our own emotions (*intrinsic emotion regulation*) across three stages of emotion regulation. It is unclear whether this extends to the processes we use to regulate other people's emotions (*extrinsic emotion regulation*). To improve our understanding of individual differences in extrinsic regulation, a meta-analysis (study 1; n = 5,609, k = 15) examined which personality domains predict extrinsic affect improving and affect worsening regulation (*identification* stage). A 7-day daily diary (study 2; n = 534) examined which personality domains relate to different extrinsic regulation strategies (*selection* stage) using multilevel modeling. Results show that affect improving and worsening regulation related to pro-social and anti-social traits (study 1), whereas the selection of extrinsic strategies (study 2) related to emotion-related traits. This research helps establish a nuanced understanding of the relationship between personality domains and extrinsic emotion regulation.

Keywords: meta-analysis, daily diary, personality, extrinsic emotion regulation, dark triad, emotional intelligence

1. Introduction

Regulating emotions is an integral part of our day-to-day life. Whether we are dealing with a stressful task, helping a frustrated colleague at work, or talking with our partner after a difficult day, emotions and how we manage them are central. Emotion regulation refers to the processes used to influence the intensity, timing, type, and duration of your own emotions (*intrinsic emotion regulation*) or other people's emotions (*extrinsic emotion regulation*) (Gross, 1998; 2015). The goal of a regulation attempt can be to feel better (*affect improving regulation*) or to feel worse (*affect worsening regulation*). Most emotion regulation research to date builds on Gross' Extended Process Model (2015), which outlines that emotion regulation has three stages, namely *identification* (identifying the need to regulate, including setting regulation goals), *selection* (selecting one or more regulation strategies) and *implementation* (implementing the strategies). The majority of this research has focused on intrinsic rather than extrinsic emotion regulation, with repeated calls to test whether research findings generalize to extrinsic emotion regulation (Gross, 2015). While review papers outline the clear links between personality domains and intrinsic emotion regulation at all three stages (e.g., Barańczuk, 2019; Hughes et al., 2020), the extent to which these findings hold for extrinsic emotion regulation is unclear.

In a recent review, Hughes et al. (2020) outlined that 'studying personality traits can improve our understanding of how and why individual differences in emotion regulation arise', stating that the 'most prominent call for future research is to continue the integration using theoretical frameworks such as the extended process model' to help establish whether individuals use different extrinsic regulation strategies as a function of personality (p. 10). Although the last decade has seen a rapid increase in research interest on extrinsic emotion regulation (e.g., Cohen & Arbel, 2020; Nozaki, & Mikolajczak, 2022) most research to date does not have the

relationship between personality and extrinsic regulation as the primary focus (instead, personality has been included as a control, or for measurement validation purposes). This complicates the integration of research findings to date, and accordingly the integration of findings on intrinsic and extrinsic regulation. Moreover, most research to date builds on Niven's taxonomy of controlled interpersonal affect strategies (Niven et al., 2009), categorizing extrinsic regulation as 'affect improving' and 'affect worsening' (e.g., Jitaru, 2020; Li et al., 2021). While this broad categorization is helpful in separating pro- and contra-hedonic regulation goals, it may obscure a nuanced understanding of the relationship between personality and specific extrinsic emotion regulation strategies, such as listening to the other person vent, or helping them avert their attention to something else (Hughes et al., 2020). Niven (2009) and Gross' (2015) traditions are somewhat distinct literatures and rely on different terminology. Niven's taxonomy uses the terms *affect worsening* and *affect improving* to refer to different kinds of regulation, whereas the Extended Process Model refers to regulation based on *pro-hedonic* or *contra-hedonic goals* as part of the identification stage of emotion regulation. We argue that although the two traditions are not completely synonymous, they refer to the same part of the emotion regulation sequence.

To address the gap in the literature, we combine these traditions and examine the relationship between personality and extrinsic emotion regulation in two ways. First, a meta-analysis examines which personality domains predict whether people engage in affect improving or affect worsening other regulation (representing the *identification* stage). Second, a 7-day daily diary study examines which personality domains relate to different strategies people use to regulate others in daily life (representing the *selection* stage). By integrating existing research findings in study 1, and by taking a daily diary approach in study 2, this paper clarifies the state

of the current literature, and helps improve our understanding of how and why individual differences in emotion regulation arise (Hughes et al., 2020).

2.1. Emotion Regulation

Research on emotion regulation has largely been based on Gross' influential Process Model (1998) and Extended Process Model of Emotion Regulation (2015). The Process Model describes how efforts to regulate emotions can occur at five different timepoints in a situation-attention-appraisal-response time sequence, suggesting five different families of regulatory processes: a) *situation selection processes* (e.g. avoidance or confrontation); b) *situation modification processes* (e.g. direct situation modification or seeking instrumental support); c) *attentional deployment processes* (e.g. distraction or rumination); d) *cognitive change processes* (e.g. cognitive reappraisal or distancing); and e) *response modulation processes* (e.g. expressive suppression or receptive listening). The Extended Process Model (Gross, 2015) builds on the Process Model, describing three stages by which a regulation attempt occurs. *Identification* of the need to regulate involves perceiving the emotional state, evaluating that state in terms of harms and benefits and forming a regulation goal. *Selection* involves perceiving the available repertoire of processes, evaluating their efficacy, and deciding which strategies to use. *Implementation* involves implementing the selected processes. Research has shown that individual differences in personality domains relate to the three stages when applied to intrinsic emotion regulation (Hughes et al., 2020), with most studies focusing on the selection stage. It is not clear whether these results will generalize to extrinsic regulation.

2.2. Extrinsic Emotion Regulation

The most influential theoretical model of extrinsic emotion regulation was developed by Niven et al. (2009) - the Taxonomy of Controlled Interpersonal Affect Regulation Strategies.

This model structures extrinsic emotion regulation processes into four different families based on crossing two distinctions - goal by focus. The *goal* of emotion regulation can be pro-hedonic versus contra-hedonic, delineating two affect improving processes (positive engagement and acceptance) and two affect worsening processes (negative engagement and rejection). Although the classification scheme proposes multiple regulation processes, the major assessment based after this scheme distinguishes only between affect improving versus worsening. Niven et al. (2011) developed the Emotion Regulation of Other's Scale (EROS), which includes two subscales for extrinsic emotion regulation: *affect-improving* versus *affect-worsening*. The distinction between affect improving and affect worsening is also fundamental to Austin and O'Donnell's (2013) Managing the Emotions of Others Scale (MEOS). This scale includes one subscale relating to affect improvement (*enhance)* and one subscale relating to affect worsening (*worsen*).

2.3. Extrinsic Emotion Regulation and Personality

Personality traits reflect people's patterns of thoughts, feelings, and behaviors (Lucas & Diener, 2015). As personality traits are integral to who we are, how we make sense of the world, and the actions we take, we expect personality traits to influence extrinsic emotion regulation across the Extended Process Model stages (Gross, 2015; Hughes et al., 2020). To examine this, we consider multiple taxonomies of personality, including the Big Five, Five Factor Model, HEXACO, Dark Triad and self-rated emotional intelligence.

2.3.1. Big Five, Five Factor Model, and HEXACO

Primary dimensions of individual differences are often captured by the 'Big Five' traits, namely openness to experience, conscientiousness, extraversion, neuroticism and agreeableness. Although often used interchangeably, the terms 'Big Five' and 'Five Factor Model' stem from

different research traditions. Big Five personality builds on a lexical approach, whereas the Five Factor Model views the factors as psychological entities with causal force. Some of the most often-used instruments measuring personality traits are the Big Five Inventory (John et al., 1991), and the Five Factor Model NEO-PI-R (Costa & McCrae, 2008). The Big Five Inventory and NEO-PI-R measure an individual on the five dimensions mentioned previously (Goldberg, 1999; Wiggins, 1996), and can be further divided into facets. Meta-analyses show that the big five personality dimensions predict outcomes academic performance, loneliness, and wellbeing (e.g., Anglim et al., 2020; Buecker et al., 2020; Poropat, 2009).

The HEXACO Personality Inventory (Lee & Ashton, 2004) was published following several lexical studies showing that six dimensions of personality represented the factor space of personality factors better. The HEXACO inventory adds a sixth 'morality-related' trait, by re-partitioning Big Five neuroticism and agreeableness into agreeableness, emotionality, and honesty-humility. HEXACO domains openness, conscientiousness, and extraversion correspond closely to their Big Five counterparts, whereas the other two factors have a more complicated relation (Ashton & Lee, 2007).

Linking the Big Five personality dimensions and intrinsic emotion regulation, most research to date has been conducted on the selection stage (Hughes et al., 2020). A meta-analysis (Barańczuk, 2019) showed that higher extraversion, openness to experience, agreeableness and conscientiousness, and lower neuroticism related to the selection of intrinsic regulation strategies generally deemed adaptive (reappraisal, problem solving) and less strategies generally deemed maladaptive (avoidance, suppression). Eldesouky and Gross (2019) found that personality not only predicts intrinsic strategy selection, but also intrinsic regulation goals. Agreeableness for

example predicted pro-hedonic goals and pro-social goals (i.e., to improve others' affect) for regulating one's own emotions.

2.3.2. Dark Triad

The 'Dark Triad' represents three sub-clinical personality trait constellations, namely narcissism, Machiavellianism, and psychopathy (Paulhus & Williams, 2002). Although conceptually distinct from each other, there are empirically overlapping characteristics such as ethical, moral, and socially deviant behavior (Paulhus & Williams, 2002). Narcissism is broadly characterized by behavioral patterns and attitudes related to grandiosity, entitlement, and desire for admiration (Wink, 1991). Machiavellianism is associated with manipulation and exploitation of others (Christie & Geis, 1970). Psychopathy is related to diminished empathy, with superficial charm, a tendency toward pathological lying, and lacking conscience (Hare, 2003). A recent meta-analysis found that psychopathy was related to selection of less intrinsic reappraisal, and more expressive suppression (Walker et al., 2022), whereas narcissism and Machiavellianism were not.

2.3.3. Self-Rated Emotional Intelligence

Following the conceptualization of emotional intelligence as a personality trait (Petrides et al., 2007), emotional intelligence is defined as a collection of self-reported beliefs and attitudes about our emotional competencies (Petrides, 2010), and captures constructs like empathy, emotional expression, and social competence (Petrides & Furnham, 2001). Unsurprisingly, self-rated emotional intelligence has been found to positively relate to, and overlap substantially with, personality measures (Davies et al., 1998). People high in self-rated (trait) emotional intelligence are more likely to select intrinsic reappraisal and situation modification strategies (Peña-Sarrionandia et al., 2015). Emotional intelligence has been found

to predict positive and negative outcomes in interpersonal relationships (Schutte et al., 2010), but little has been published on the relationship between self-rated emotional intelligence and specific extrinsic emotion regulation strategies beyond 'affect improving' and 'affect worsening' other regulation.

2.4. Current Studies

As outlined above, personality has been found to relate to intrinsic emotion regulation. To date, these links have not been extended to extrinsic regulation, despite the knowledge that personality is a key driver of social and interpersonal behavior. The current studies address this gap in two ways. First, a meta-analysis summarizes the link between several personality domains and extrinsic affect improving and worsening other regulation (i.e., the goal formation step of identification). Second, the intensive longitudinal study examines whether personality domains (Big Five, Dark Triad, self-rated emotional intelligence) predict twelve strategies people select to regulate others' emotions in daily life (the selection stage). Neither studies were pre-registered.

3. Study 1

As our personality influences the identification of the need to regulate our own emotions, and the strategies we select (Barańczuk, 2019), it is likely that personality traits also influence whether and how we regulate other peoples' emotions. Most research to date measured extrinsic emotion regulation with the EROS (Niven et al., 2011) and the MEOS (Austin & O'Donnell, 2013) instruments, broadly categorizing extrinsic regulation as 'affect improving' and 'affect worsening'. Because of the differential nature of using 'affect improving' versus 'affect worsening' regulation, it is likely that different personality traits will predict either affect improving, or worsening regulation, or have a differential relationship (a positive versus a negative relationship). However, there is not sufficient evidence of these links as most research

to date on extrinsic regulation has included personality traits either as a control (Niven et al., 2015; Springstein et al., 2022) or for measure validation purposes (Niven et al., 2011; Austin & O'Donnell, 2013). A meta-analysis has high utility as a way of consolidating and summarizing what is already in the literature, but not explicitly hypothesized or discussed, as is the case here. As we expect different relationships or relationships with different directions for 'affect improving' and 'affect worsening' extrinsic regulation, the current meta-analysis is guided by the following research questions:

(1) Does the regulation goal (affect improving versus affect worsening) moderate the relationship between personality and extrinsic emotion regulation?

(2) Which personality traits have the strongest associations with extrinsic affect improving (trying to make others feel better)?

(3) Which personality traits have the strongest associations with extrinsic affect worsening (trying to make others feel worse)?

3.1. Method

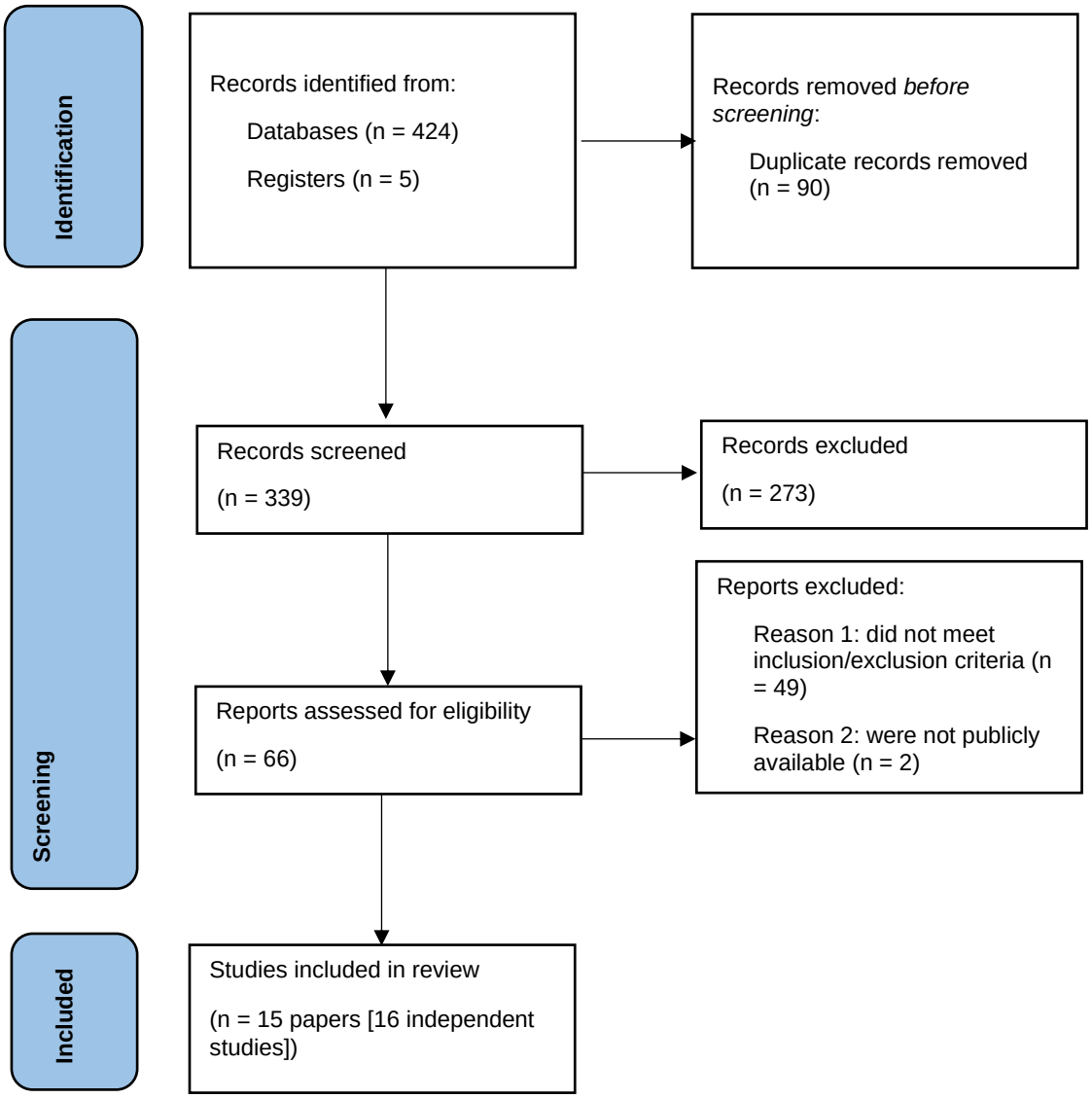
3.1.1. Literature search

A search was conducted in February 2022. The search terms (MEOS or "Managing the Emotions of Others Scale" or "Emotion Regulation of Others and Self" or "extrinsic emotion reg*") yielded 424 results from the databases PsychInfo, Medline, ProQuest Dissertations & Theses, Google Scholar, and Web of Science. Additionally, reference searches were conducted to identify potential studies that may have been missed initially. Researchers in the field were contacted and invited to send through unpublished data. The database search, combined with the reference search, and unpublished data, yielded a total of 66 studies that progressed to full-text

review to assess specific inclusion and exclusion criteria. The overall literature search resulted in 15 papers containing 16 independent studies that fit our inclusion criteria (see Figure 1).

Figure 1

Prisma flow diagram of the studies included in the meta-analysis



3.1.2. Inclusion and exclusion criteria

The following inclusion criteria were defined for eligibility of studies: (a) an extrinsic emotion regulation measure based on an empirically tested model (psychometrically validated)

was used in the study; (b) the study included one or more of a Big Five/Five Factor, Dark Triad, and emotional intelligence measure based on an empirically tested model (psychometrically validated); (c) participants were neuro-typical, non-clinical adults over 18 years old; (d) the papers were published in English, or Spanish (first- or second language of the authors).

3.1.3. Coding

The coding procedure was developed based on Cochrane collaboration standards (Higgins & Green, 2011). Study characteristics, Cronbach's alpha, and Pearson correlations were extracted and coded into a worksheet. Two of the authors independently double coded all included studies. Any discrepancies in coding were resolved by the last author checking the data in 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.

3.1.4. Meta-analytic approach

The meta-analysis was conducted using the 'robumeta' package in R (Fisher & Tipton, 2015). Pearson's *r* correlation coefficients were extracted from studies meeting the eligibility criteria and were used as the measure of effect size. I^2 was used to evaluate heterogeneity of correlations across included studies (Higgins & Thompson, 2002). To account for the dependence between effect sizes (e.g., multiple effect sizes drawn from the same study), we used robust variance estimation (RVE). RVE adjusts the standard errors to account for the clustered nature of the included studies and provide parameter estimates that are robust to the strength of the correlation between the effect sizes (Hedges et al., 2010). Risk of bias was assessed by conducting an Egger's test of asymmetry. A characteristics table of the included studies (containing sample demographics, measures, and results) is included in the Supplemental

Material. Materials, data, and analyses are available on OSF's public online repository (anonymized): https://osf.io/db75e/?view_only=f791f7f23e534ed38f751bd1d063fd77.

3.2. Results

3.2.1. Description of Included Studies

There was a total of 5,609 participants across 15 papers [16 independent studies]. The mean age ranged between 18 and 44 (68.94% female). A total of 11 papers included the MEOS (Austin & O'Donnell, 2013) or MEOS short form (Austin et al., 2018), and 5 papers included the EROS (Niven et al., 2011). The instruments used to measure personality traits are outlined in the characteristics table (see Supplemental Material).

3.2.2. Meta-analysis

Relationships between extrinsic emotion regulation and personality

We first examined the relationships between personality traits and extrinsic emotion regulation (including both affect improving and affect worsening) using separate multi-level random effects meta-analyses with RVE for each personality domain (see Table 1).

Table 1.

Results of the overall meta-analysis predicting extrinsic emotion regulation (combined affect improving and affect worsening), from the Big Five + HEXACO, the Dark Triad, and Emotional intelligence) using the 'robumeta' package in R.

	n	*k*	*r*	*SE*	*95% C.I.*	I^2	*P*
Big Five + HEXACO							
Extraversion	12	38	.10	.03	[.03 ; .16]	90.14%	.007
Agreeableness	11	26	.03	.09	[-.16 ; .22]	98.75%	.715
Conscientiousness	9	32	.04	.05	[-.07 ; .15]	96.97%	.462
Neuroticism	8	24	.09	.04	[.00 ; .19]	88.05%	.058
Openness	8	31	.07	.02	[.01 ; .12]	93.59%	.022
Agreeableness (H)	3	12	-.08	.04	[-.25 ; .09]	97.21%	.172
Honesty-Humility	3	25	-.22	.03	[-.35; -.09]	98.31%	.018
Emotionality	3	10	.08	.04	[-.08 ; .24]	84.53%	.172
Dark Triad							
Machiavellianism	7	22	.18	.07	[.01 ; .34]	98.85%	.039
Psychopathy	5	14	.08	.06	[-.09 ; .26]	98.85%	.261
Narcissism	6	16	.16	.03	[.07 ; .25]	95.83%	.005
Trait EI							
Total EI	7	21	.05	.03	[-.03 ; .13]	98.24%	.191

Note: Agreeableness (H) = Agreeableness dimension from HEXACO scale. n = number of independent studies; k = number of effects; r = uncorrected effect size; SE = standard error; 95% C.I. = 95% confidence interval; I^2 = i-squared.

Research Question 1: Does the regulation goal (affect improving versus affect worsening) moderate the relationship between personality and extrinsic emotion regulation?

Meta-regressions for each personality domain (controlling for clustering) were conducted to examine the extent to which the goal of extrinsic emotion regulation (affect improving versus

affect worsening) moderate the personality/regulation relationship. The extrinsic emotion regulation/personality relationships significantly differed for *affect improving* versus *affect worsening* for all personality traits except neuroticism and emotionality, indicating that the goal of extrinsic emotion regulation (affect improving versus affect worsening) was a potential source of heterogeneity (see Table 2). The answer to research question 1 is therefore yes—the regulation goal significantly moderates the extent to which most personality traits relate to extrinsic emotion regulation.

Table 2.
Meta-regressions for affect improving and affect worsening comparing effect sizes across the personality traits.

	n	*k*	*r*	*SE*	*95% C.I.*	*p*
Extraversion	12	38				
Affect improving (intercept)			.18	0.05	[.06 ; .30]	.007
Affect worsening			-.18	0.06	[-.32;-.04]	.015
Agreeableness	11	26				
Affect improving (intercept)			.35	0.05	[.23 ; .47]	< .001
Affect worsening			-.69	0.06	[-.84;-.55]	< .001
Conscientiousness	9	32				
Affect improving (intercept)			.26	0.04	[.16 ; .36]	.001
Affect worsening			-.45	0.06	[-.58;-.32]	< .001
Neuroticism	8	24				
Affect improving (intercept)			.02	0.06	[-.13 ; .17]	.746
Affect worsening			.17	0.07	[.00 ; .33]	.051
Openness	8	31				
Affect improving (intercept)			.16	0.06	[.01 ; .30]	.040
Affect worsening			-.19	0.08	[-.37; .00]	.046

	n	*k*	*r*	*SE*	*95% C.I.*	*p*
Agreeableness (H)	3	12				
Affect improving (intercept)			.23	.04	[.05 ; .41]	.032
Affect worsening			-.55	.06	[-.81;-.28]	.014
Honesty-Humility	3	14				
Affect improving (intercept)			.19	0.03	[.06 ; .31]	.025
Affect worsening			-.64	0.07	[-.93;-.35]	.011
Emotionality	3	10				
Affect improving (intercept)			.09	0.08	[-.35; .53]	.409
Affect worsening			-.03	0.10	[-.53; .47]	.798
Machiavellianism	7	22				
Affect improving (intercept)			-.20	0.05	[-.35;-.05]	.021
Affect worsening			.65	0.07	[.47 ; .83]	< .001
Psychopathy	5	14				
Affect improving (intercept)			-.20	0.06	[-.38;-.03]	.035
Affect worsening			.59	0.09	[.34 ; .84]	.003
Narcissism	6	16				
Affect improving (intercept)			.03	0.06	[-.13; .02]	.591
Affect worsening			.27	0.09	[.03 ; .50]	.034
Trait EI	7	21				
Affect improving (intercept)			.36	0.06	[.20 ; .52]	.002
Affect worsening			-.57	0.07	[-.73;-.41]	< .001

Note. Agreeableness (H) = Agreeableness dimension from HEXACO scale. n = number of independent studies; k = number of effects; r = uncorrected effect size; SE = standard error; 95% C.I. = 95% confidence interval.

Research question 2: Which personality traits have the strongest associations with extrinsic affect improving?

The strongest associations between personality and extrinsic affect improving were for self-rated emotional intelligence and agreeableness. There were also significant small-to-moderate correlations of higher extraversion, conscientiousness, openness, honesty-humility, and lower Machiavellianism and psychopathy with extrinsic affect improving. Emotionality, neuroticism, and narcissism were not significantly associated with 'affect improving' (see Table 3). The answer to research question 2 is therefore that the most pro-social traits (self-rated emotional intelligence and agreeableness) showed the strongest associations with affect improving (with anti-social traits showing a negative association).

Research question 3: to what extent do personality traits relate to 'affect worsening' extrinsic emotion regulation?

The largest associations with affect worsening were for lower honesty-humility and higher Machiavellianism and psychopathy, with a large effect for honesty-humility and Machiavellianism and a moderate-to-large effect for psychopathy. Affect worsening also showed a significant association with lower agreeableness and higher narcissism, lower conscientiousness, higher neuroticism, and lower emotional intelligence. Emotionality, openness, and extraversion were not significantly related to extrinsic affect worsening (see Table 3). The answer to research question 3 is therefore that anti-social traits representing manipulation of others (Machiavellianism, psychopathy, and low honesty-humility) showed the strongest associations with affect worsening (with pro-social traits showing a negative association).

Table 3.

Subgroups analysis examining personality/regulation associations separately for pro-hedonic regulation goal (affect improving) versus contra-hedonic regulation goal (affect worsening)

	n	*k*	*r*	*SE*	*95% C.I.*	I^2	*p*
Affect Improving							
Extraversion	12	18	.21	.03	[.13 ; .28]	78.29%	< .001
Agreeableness	9	13	.37	.05	[.25 ; .50]	92.19%	< .001
Conscientiousness	9	13	.24	.04	[.14 ; .34]	92.96%	.001
Neuroticism	7	9	-.01	.04	[-.11; .09]	72.82%	.793
Openness	8	12	.16	.05	[.03 ; .29]	93.89%	.020
Agreeableness (H)	3	5	.23	.04	[.06 ; .40]	33.90%	.031
Honesty-Humility	3	5	.19	.02	[.09 ; .30]	12.77%	.018
Emotionality	3	5	.15	.07	[-.15; .44]	70.74%	.166
Machiavellianism	6	8	-.21	.05	[-.34;-.08]	87.97%	.010
Psychopathy	5	6	-.22	.06	[-.40;-.04]	88.55%	.029
Narcissism	6	7	0	.07	[-.19; .19]	94.96%	.996
Trait EI	7	8	.39	.03	[.31 ; .48]	77.45%	< .001
Affect Worsening							
Extraversion	8	20	-.01	.03	[-.09; .06]	71.15%	.710
Agreeableness	7	13	-.34	.04	[-.43;-.24]	88.53%	< .001
Conscientiousness	7	19	-.20	.02	[-.26;-.13]	58.31%	< .001
Neuroticism	5	15	.17	.04	[.05 ; .28]	88.91%	.015
Openness	6	19	-.04	.03	[-.12; .04]	64.95%	.273
Agreeableness (H)	3	7	-.31	.04	[-.48;-.14]	43.02%	.016
Honesty-Humility	3	9	-.45	.04	[-.63;-.27]	79.57%	.009
Emotionality	2	5	.06	.05	[-.53; .66]	90.52%	.396
Machiavellianism	6	14	.46	.04	[.35 ; .56]	82.91%	< .001
Psychopathy	4	8	.40	.07	[.19 ; .61]	93.06%	.009
Narcissism	5	9	.29	.05	[.16 ; .43]	92.36%	.004
Trait EI	6	13	-.21	.02	[-.26;-.16]	61.59%	< .001

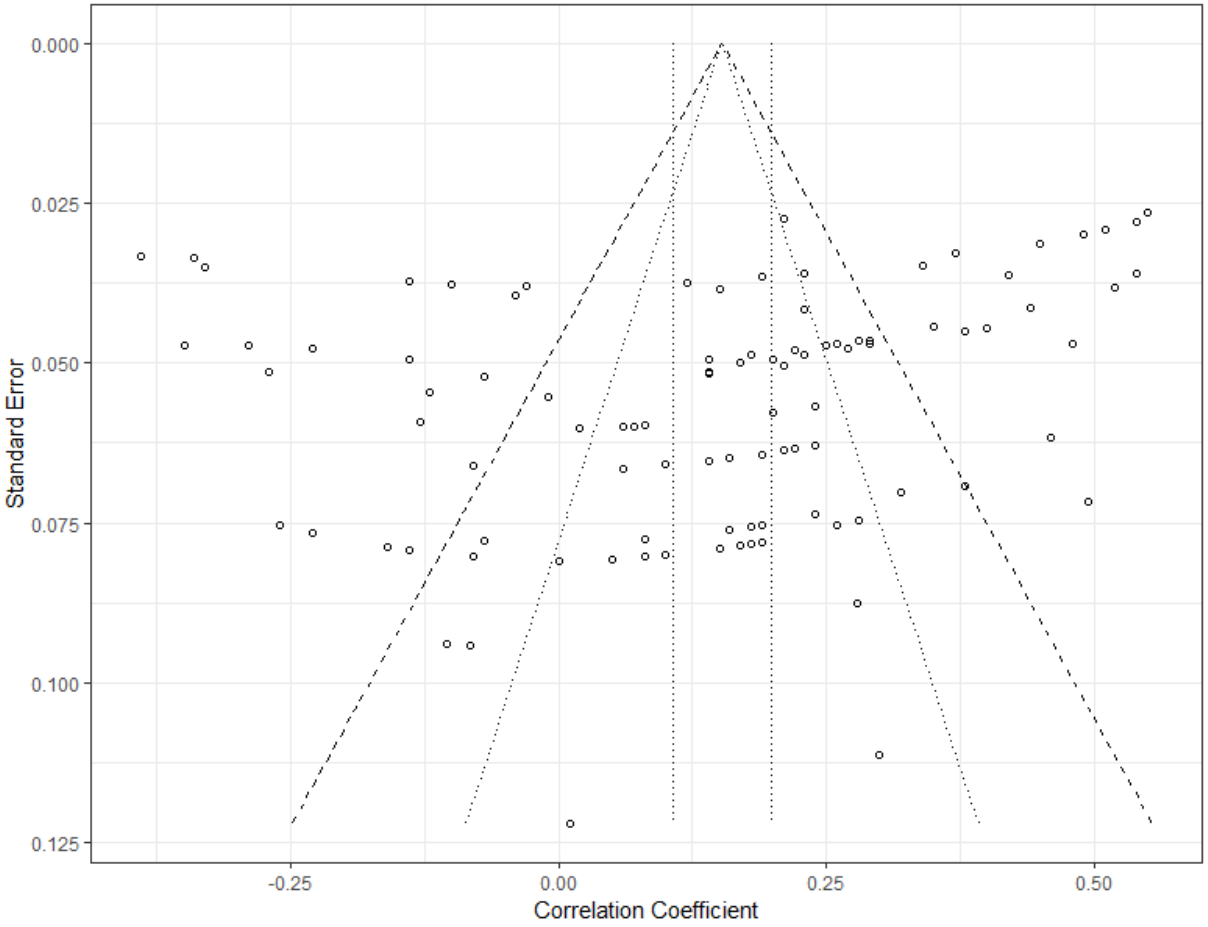
Note. Agreeableness (H) = Agreeableness dimension from HEXACO scale. n = number of independent studies; k = number of effects; r = uncorrected effect size; SE = standard error; 95% C.I. = 95% confidence interval; I^2 = i-squared.

3.2.3. 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 = -1.25, p = .374), the risk of publication bias was judged to be low.

Figure 2

Funnel plot assessing publication bias



3.3. Discussion

The purpose of this meta-analysis was to investigate the relationship between personality domains and extrinsic emotion regulation distinguished by regulatory goals, 'affect improving' and 'affect worsening'. The results showed that personality was significantly associated with both types of extrinsic regulation, but effect sizes were smaller for 'affect improving' than 'affect worsening.' The strongest associations for 'affect improving' were with agreeableness and emotional intelligence (positive associations), whereas the strongest associations for 'affect worsening' were with honesty-humility and agreeableness (negative associations) and with Machiavellianism and psychopathy (positive associations).

In general, the pro-social personality domains (like agreeableness and self-rated emotional intelligence) were positively associated with affect improving extrinsic regulation. People who score high in agreeableness are empathetic, cooperative, and compassionate (Ashton et al., 2014), which may influence their decision to engage in affect improving regulation to help others feel better and promote positive social interactions. Similarly, people high in emotional intelligence are more likely to rely on conflict resolution strategies and positive reappraisal strategies (Peña-Sarrionandia et al., 2015). Our results show that the tendency of emotionally intelligent individuals to engage in affect improving regulation instead of affect worsening regulation to regulate their own emotions, extends to the regulation of others' emotions. Affect improving regulation also positively related to extraversion, conscientiousness, openness, and honesty-humility. It is very likely that although individuals high in conscientiousness, openness and honesty-humility all engage in affect improving regulation, they may use different specific extrinsic regulation strategies that build on their personality strengths, to achieve their regulation goals. This is examined in more detail in study 2.

The anti-social domains were positively associated with affect worsening. Given the Dark Triad domains are characterized by a tendency to exploit and manipulate others, disregard norms and values, and a lack of empathy and concern for others (Paulhus & Williams, 2002), it is not surprising that these domains were positively related to the identification of regulation to intentionally make others feel worse. This could be because such individuals may be more willing to use emotional manipulation as a way to control and gain power over others. For example, a person high in Machiavellianism may engage in affect worsening regulation as a way to undermine a rival's confidence or to maintain their own dominance in a social context (Hartog & Belschak, 2012). Furthermore, individuals high in the Dark Triad traits tend to have a lower level of emotional intelligence (Walker et al., 2021) and may have difficulty managing their own emotions (Walker et al., 2022). They may be more prone to use affect worsening strategies as a way to project their own negative emotions onto others and avoid dealing with them directly.

Interestingly, the results suggest that emotionality does not relate to either affect improving or worsening extrinsic regulation. Possibly, examining the relationship between HEXACO's emotionality facets and extrinsic 'affect improving' and 'affect worsening' regulation will offer a more nuanced picture; individuals scoring high on fearfulness and anxiety may decide to engage in less extrinsic emotion regulation (or may be guided by different regulation goals) compared to individuals scoring high on dependence (needing emotional support from others) or sentimentality (feeling strong emotional bonds with others).

The current meta-analysis looked at the final stage of identification (pro-hedonic versus contra-hedonic goals), with results suggesting that extrinsic regulation relates more to interpersonal 'pro-social' and 'anti-social' traits. When considering whether to engage in affect improving extrinsic emotion regulation (i.e., "*should I help this person by making them feel*

better?"), it follows that pro-social traits play a more crucial role than emotional traits. Similarly, it follows that individuals higher on anti-social traits are more likely to consider engaging in affect worsening extrinsic regulation. However, when the selection stage of emotion regulation strategies is considered, other emotion-related personality traits may be more powerful drivers (Barańczuk, 2019). To create a more nuanced understanding of the relationship between personality and the stages of extrinsic emotion regulation, we conducted study 2.

4. Study 2

Study 1 provided evidence that the relationship between personality domains and regulating others' emotions was driven by regulation goals (to improve versus to worsen affect). In line with our theorizing, the associations between personality and regulation were in opposite directions for affect improving and affect worsening regulation. Study 2 extends these results in two ways: 1) by considering distinct strategies that might achieve pro-hedonic and contra-hedonic extrinsic regulation goals during the selection stage; and 2) by assessing such strategies using an intensive longitudinal analysis design.

4.1. Strategies for Regulating Others' Emotions

Meta-analyses linking Big Five personality to intrinsic emotion regulation strategies show that personality traits predict intrinsic strategy selection. (Barańczuk, 2019; Connor-Smith, & Flachsbart, 2007), but this link has not yet been examined for extrinsic emotion regulation. To measure extrinsic emotion regulation strategy selection, we rely on extrinsic affect worsening strategies identified by Niven et al. (2009) and extrinsic affect improving strategies identified by MacCann et al. (2018). Niven et al. (2009) provided the most comprehensive classification of extrinsic emotion regulation strategies to date, which MacCann et al. (2018) extended and refined for extrinsic affect improving strategies. Drawing on these two sources, study 2 considers

eight possible strategies for improving others' emotions and four possible strategies for worsening others' emotions (see Table 4).

Strategies for regulating others' emotions differ in how much they require the regulator to engage with the target person's emotions or cognitions, such that strategies can be categorized as 'high engagement' or 'low engagement' (Niven et al., 2009; Xiao et al., 2022). High-engagement strategies for improving others' emotions include situation modification, receptive listening, reappraisal, and valuing (with downward social comparison, expressive suppression, distraction, and humor representing 'low engagement' strategies; MacCann et al., 2018). These differences have conceptual links to different personality traits. For example, highly extraverted people are talkative, outgoing, and social and might regulate others using strategies that involve high *social engagement* with others, such as valuing and listening (Xiao, 2022). Social engagement might also be linked to self-rated emotional intelligence, which includes interpersonal elements relating to social functioning (e.g., Law et al., 2004). In contrast, highly open people are imaginative and interested in ideas, and might be more inclined to use strategies involving *cognitive engagement* with others (like reappraisal). If findings from intrinsic emotion regulation can be extended to extrinsic regulation, we might expect conscientiousness to relate to situation modification (changing the other person's environment; Connor-Smith, & Flachsbart, 2007) and extraversion to expressive suppression (Barańczuk, 2019). Considering affect worsening strategies, neuroticism may relate to confrontation and affective engagement (a domain hallmarked by anger, hostility, or stress and anxiety), whereas extraversion might show a negative relationship to the strategies that avoid the target person (*withdrawal* from the target), but a positive relationship to strategies that approach the target person (*affective engagement*, *behavioral engagement,* and *confrontation*). As affect worsening strategies fundamentally involve

manipulating another person, it is likely that Machiavellianism is a key predictor of any affect worsening strategy.

While a detailed one-to-one mapping of personality domains to extrinsic regulation strategies is hard to predict, we expect that different extrinsic regulation strategies show differential relationships with personality domains. The current study was designed to test this expectation with respect to personality domains implicated in study 1 (the Big Five, Dark Triad, and self-rated emotional intelligence). Due to the large degree of overlap between HEXACO and Big Five domains, we did not include assessments of both these personality models but elected only to include a Big Five assessment. While this meant that the unique HEXACO domain (honesty/humility) was not included in the current study, meta-analytic evidence suggests that honesty/humility is largely redundant with the Dark Triad—corrected correlations between honesty/humility and Machiavellianism indicate these concepts converge (Howard & Van Zandt, 2020) and the latent correlation of honesty/humility with a 'Dark Triad' factor was -0.95 (Hodson et al., 2018).

4.1.1. Intensive Longitudinal Designs

Koval et al. (2022) has found that people's global self-report assessments of emotion regulation differs from the strategies people use, due to memory bias and heuristics-based responding, as well as confounding emotional states, goals, and strategies that people recall using (Koval et al., 2022). To increase ecological validity, intensive longitudinal methods are preferable. For this reason, the current study uses a 7-day daily diary paradigm, allowing us to: a) sample multiple different situations b) capture relatively rare events—extrinsic regulation can only occur during social interactions, and c) lower the risk related to distorted recollection (Ottenstein & Lischetzke, 2020). To our knowledge, this is the first study to use an intensive

longitudinal design to examine the relationship of personality domains to specific extrinsic regulation strategies for both affect improving and affect worsening strategy selection. While we do have some expectations (as described above), this research is exploratory. As such, we hypothesize that:

> *Extrinsic emotion regulation strategies will differ from each other in terms of which personality traits are significantly related to them.*

Table 4

Extrinsic emotion regulation strategy definition and item(s) used in the daily diary study

Extrinsic Affect Improving
Downward social comparison. Shifting their frame of reference by comparing their situation to someone who is worse off than they are (*I compared their situation to other people who are worse off*).
Expressive suppression. Encouraging them to hide the expression of their emotions in their face, voice, or body language (*I asked them to hide how they were feeling*).
Distraction. Helping them avert their attention from the emotion-inducing situation or stimulus *(I diverted their attention to something else).*
Humor. Saying comical things; doing something amusing to make them feel better *(I used jokes or humor to make them smile).*
Situation Modification. Actively engaging to help change their situation; trying to fix things for them *(I took action to change their situation).*
Reappraisal. Helping them reframe the situation to encourage a more positive perspective *(I helped them see events in a new way).*
Receptive Listening. Listening to them talk or vent; offering a listening ear *(I listened to them talk about their emotions).*
Valuing. Giving them attention to make them feel valued or special (*I let them know how much they mean to me*).
Extrinsic Affect Worsening
Confrontation. Being rude, disrespectful or offensive in verbal remarks (*I criticized them. I was rude to them*).
Withdrawal. Ignoring or neglecting them; disregarding their needs, opinions or attempts to connect (*I ignored them. I disregarded their opinions*).
Behavioral engagement. Changing the physical or psychological environment to manipulate their behavior in order to make them feel worse (*I asked them to do stressful tasks. I put them under pressure*).

Affective engagement. Making them think something they did was morally wrong, emotionally hurtful, or bad (*I made them think they had done something hurtful. I explained why their actions were morally wrong*).

Note. Affect improving strategies are based on MacCann et al. (2018); Affect worsening strategies are based on Niven et al. (2009).

4.2. Method

4.2.1. Participants, recruitment, and procedure

Participants were recruited from online crowd-source site Prolific (https://www.prolific.co/) and completed a 30-minute baseline assessment of demographics and personality variables, then answered a 3-minute end-of-day diary every day for 7 days (the diary was available from 6pm until midnight each day). Participants received £2.50 for completing the survey, £0.25 for each daily diary completed, and a bonus of £1 if they completed at least 5 out of the 7 days. Participants were excluded if they completed the baseline study too quickly (less than 1/3 of the median response time), failed 2 attention-check questions, or for 'straight-lining'. After exclusions, there were 534 participants who completed both the daily diary studies and the baseline measure (51.4% women, 48.6 men; aged between 18 and 77, M_{age} = 42.53, SD_{age} = 13.30). Participants were all residents of the United Kingdom.

4.2.2. Measures

Baseline Assessment

Five Factor Personality. Five Factor Personality was assessed with Johnson's (2014) 120-item assessment of the NEO-PI-R personality model (Costa & McCrae, 2008). Participants were asked to "describe yourself as you generally are now, not as you wish to be in the future. Describe yourself as you honestly see yourself" and rated their response on a scale of 1 (very inaccurate) to 5 (very accurate). E.g., "I worry about things". There are 24 items for each of the 5

domains, and the average rating (after reverse-scoring items) was used to represent the five domains: extraversion, agreeableness, conscientiousness, openness to experience and neuroticism.

Dark Triad. The three Dark Triad domains were assessed with the 12-item Dirty Dozen (Jonason & Webster, 2010), using the same response instructions and rating scale as the Five Factor Model. Example items include: "I am indifferent to the feelings of others". Mean scores were combined in 3 domains: psychopathy, Machiavellianism, and narcissism.

Self-rated Emotional Intelligence. Self-rated emotional intelligence was assessed with the 16-item Wong-Law Emotional intelligence Scale (WLEIS; Wong & Law, 2002), using the same response instructions and rating scale as the Five Factor Model. An example item includes: "I always know my friends' emotions from their behavior". The total score (average of the 16 items) was used.

Daily Diaries

At the end of every day, participants were asked: "Did you interact with anyone today?". If they answered 'yes', they completed the daily diary protocol. If they responded 'no', they completed a filler task of the same length (to avoid naysaying to complete the surveys more quickly). To keep the survey at a manageable length, mostly single items were used to measure variables. Situation characteristics, sadism and empathic concern were measured, but not included in the current paper in order to keep the scope narrow and build more closely on study 1. Materials, data, and analyses are available on OSF's public online repository (anonymized): https://osf.io/db75e/?view_only=f791f7f23e534ed38f751bd1d063fd77.

Recall Incident Questions. Participants were asked: “Who was the main person you interacted with today?” and “What was happening at the beginning of this interaction?” to aid participants’ recall of the interaction. This data was not analysed.

Extrinsic Emotion Regulation. Participants were asked “In this interaction, how much did you do the following things to change this person’s emotions?” and rated 16 items (e.g., “I used jokes or humor to make them smile”). The 8 extrinsic affect improving strategies were represented by 1 item, and 4 extrinsic affect worsening strategies by 2 (see Table 1). Items were rated on a 0-100 slider scale. Alpha coefficients are .81 for affective engagement, .70 for confrontation, .72 for behavioral engagement and .64 for withdrawal.

4.2.3. Analysis

Prior to conducting multilevel models, power calculations were conducted in Mplus 8 (Muthén & Muthén, 2017) using Montecarlo simulations (estimator MLR) with 1000 repetitions, specifying a sample size of $N = 534$ participants, 5 occasions per person. Correlations and intercorrelations for Five Factor personality (Park et al., 2020), Dark Triad traits (O’Boyle et al., 2015; Muris et al., 2017) and emotional intelligence (Saklofske et al., 2003; Zhang et al., 2015) were specified, and a small to moderate effect ($r = .20$) was modeled for the between-level relationship of the dependent variables on extrinsic regulation strategies. Montecarlo simulations indicated sufficient power to detect small to moderate effects for multilevel regression models incorporating all 9 personality traits (independent variables) and one extrinsic regulation strategy (dependent variable). Models including multiple extrinsic regulation strategies were underpowered.

To analyse the data, multilevel modeling using Mplus 8 (Muthén & Muthén, 2017) was conducted, clustering occasions (daily diaries) within people. To avoid multicollinearity and underpowered regression analyses, separate analyses were conducted for extrinsic strategies on each of the nine personality traits. The Five Factor personality, Dark Triad and self-rated emotional intelligence were modeled at the between-level and grand-mean centered.

4.3. Results

Table 5 shows the reliability and descriptive statistics of the personality variables. A total of 2973 data points were collected, with an average of 5.57 days recorded per participant. The person participants interacted with was reported to most often be a romantic partner (29.1% of the reported interactions), a co-worker (13.6%), a friend (13%), or a parent (11.7%). Participants reported using extrinsic regulation strategy humor the most (M = 34.76, SD = 23.83). Suppression (M = 2.85, SD = 8.94), affective engagement (M = 2.79, SD = 8.39), confrontation (M = 3.09, SD = 7.82) and withdrawal (M = 3.14, SD = 6.04) were reported to be used the least.

Table 6 shows descriptive statistics, ICCs and correlations of the daily diary data. The intra-class coefficient (ICC(1,k)) for the exogenous variables was above 0.19 in all cases, indicating that at least 19% of the variation can be attributed to between-level effects (see Table 6). Table 7 shows the level 2 correlations between personality variables and the daily diary variables.

Table 5

Means, standard deviations, internal consistency, and correlations of personality variables (Level 2)

	M (SD)	*α*	1	2	3	4	5	6	7	8
1. Extraversion	2.85 (.61)	.90								
2. Agreeableness	3.92 (.46)	.86	.12**							
3. Conscientiousness	3.72 (.58)	.91	.38**	.36***						
4. Neuroticism	2.92 (.76)	.94	-.54***	-.16***	-.52***					
5. Openness	3.33 (.48)	.82	.23***	.31***	-.03	.01				
6. Machiavellianism	1.91 (.78)	.78	.07	-.54***	-.34***	.16***	-.06			
7. Psychopathy	2.09 (.68)	.60	-.24***	-.68***	-.44***	.25***	-.21***	.46***		
8. Narcissism	2.15 (.83)	.78	.30***	-.41***	-.16***	.04	.00	.50***	.26***	
9. EI	3.64 (.61)	.89	.56***	.33***	.63***	-.60***	.21***	-.17***	-.45***	-.02

Note. *N* level 2 = 534. EI = emotional intelligence.

* = p < .05; ** = p < .01; *** = p < .001

Table 6

Means, SD, ICC, and daily diary variable correlations (Level 1)

	M	Within-person *SD*	Between-person *SD*	ICC	1	2	3	4	5	6	7	8	9	10	11
1. Downward comparison	5.53	12.23	15.22	.22	-										
2. Suppression	2.85	8.94	11.12	.23	.18***	-									
3. Distraction	10.33	15.82	19.77	.22	.28***	.17***	-								
4. Humor	34.76	23.83	32.37	.34	.12***	.09***	.21***	-							
5. Situation Modification	11.44	17.50	22.01	.22	.21***	.15***	.56***	.09***	-						
6. Reappraisal	17.34	19.19	24.92	.28	.32***	.11***	.32***	.19***	.42***	-					
7. Listening	30.05	24.92	32.66	.29	.24***	.14***	.25***	.30***	.20***	.35***	-				
8. Valuing	26.29	25.43	33.41	.30	.14***	.09***	.18***	.35***	.13***	.17***	.32***	-			
9. Confrontation	3.09	7.82	9.62	.20	.25***	.23***	.21***	-.03	.21***	.21***	.06**	.02	-		
10. Withdrawal	3.14	6.04	8.97	.25	.22***	.28***	.22***	-.03	.17***	.16***	.02	-.00	.58***	-	
11. Behavioral engagement	6.08	10.26	13.28	.28	.25***	.23***	.21***	.01	.32***	.25***	.02	.05*	.45***	.37***	-
12. Affective engagement	2.79	8.39	10.29	.19	.23***	.23***	.20***	-.04	.23***	.21***	.12***	.08***	.63***	.43***	.36***

Note. N_{diary} = 2973; $N_{cluster}$ = 534. ICC = intraclass correlations.

* = p < .05; ** = p < .01; *** = p < .001

Table 7

Correlations of personality and daily diary variables (Level 2)

	Downward Comparison	Suppress-ion	Distraction	Humor	Situation Modification	Reappraisal	Receptive Listening	Valuing	Confronta-tion	Withdrawal	Behavioral Engage-ment	Affective Engage-ment
Extraversion	.11*	.06	.05	.19**	.18**	.22**	.10	.18**	-.01	.02	.05	.11*
Agreeableness	-.11	-.19**	-.11*	-.01	-.15*	-.04	.16**	.16**	-.25**	-.28*	-.20**	-.08
Conscientiousness	-.01	-.15**	-.15**	-.03	.03	.14**	.07	.11*	-.18**	-.19**	-.15**	-.06
Neuroticism	.02	.09	.16**	.09	-.04	-.06	.07	.05	.20**	.14**	.14**	.13**
Openness	.02	-.03	.08	.15**	-.02	.13*	.14**	.12*	-.06	-.08	.04	.06
Narcissism	.16**	.15**	.26**	.12*	.16**	.17**	-.03	-.02	.19**	.21**	.27**	.18**
Machiavellianism	.22**	.25**	.25**	.14**	.15*	.11	-.01	-.04	.29**	.30**	.29**	.23**
Psychopathy	.09	.21**	.08	.01	.15**	.01	-.12*	-.18**	.25**	.24**	.18**	.05
Emotional Intelligence	.03	-.13*	-.10	.12*	.05	.17**	.13**	.12*	-.15**	-.14**	-.08	-.05

Note. N_{diary} = 2973; $N_{cluster}$ = 534.

* = p < .05; ** = p < .01; *** = p < .001

Table 8

Multilevel regressions predicting extrinsic affect improving and extrinsic affect worsening strategies from personality domains (Level 2 between-person parameters shown)

	Low-Engagement Affect Improving Strategies											
	Downward Comparison			Suppression			Distraction			Humor		
	b	*SE*	95% C.I.	*b*	*SE*	95% C.I.	*b*	*SE*	95% C.I.	*b*	*SE*	95% C.I.
Extraversion	.11	.08	[-.04 ; .27]	.19*	.08	[.04 ; .34]	.07	.07	[-.07 ; .21]	.26***	.07	[.13 ; .40]
Agreeableness	.03	.09	[-.15 ; .21]	-.00	.08	[-.17 ; .16]	.01	.09	[-.16 ; .18]	.02	.08	[-.14 ; .17]
Conscientiousness	.06	.07	[-.08 ; .21]	-.05	.09	[-.22 ; .13]	-.02	.08	[-.18 ; .14]	-.06	.07	[-.20 ; .08]
Neuroticism	.14	.09	[-.04 ; .31]	.05	.07	[-.10 ; .19]	.13	.07	[-.01 ; .26]	.31***	.07	[.17 ; .08]
Openness	-.01	.07	[-.14 ; .13]	-.02	.06	[-.14 ; .10]	.07	.06	[-.05 ; .18]	.05	.06	[-.06 ; .16]
Machiavellianism	.21**	.08	[.06 ; .36]	.15*	.07	[.01 ; .29]	.16*	.07	[.02 ; .30]	.10	.06	[-.02 ; .23]
Psychopathy	.02	.08	[-.07 ; .23]	.12	.07	[-.02 ; .27]	-.05	.07	[-.20 ; .09]	.06	.07	[-.08 ; .20]
Narcissism	.02	.07	[-.11 ; .15]	-.02	.06	[-.13 ; .10]	.17*	.07	[.04 ; .30]	-.05	.06	[-.17 ; .07]
Trait EI	.08	.09	[-.09 ; .25]	-.10	.09	[-.27 ; .08]	-.07	.09	[-.23 ; .10]	.22**	.07	[.08 ; .36]
Model *R-square*	**.08***	**.04**	-	**.10****	**.04**	-	**.12****	**.03**	-	**.12****	**.03**	-

	High-Engagement Affect Improving Strategies											
	Situation Modification			Reappraisal			Listening			Valuing		
	b	*SE*	95% C.I.	*b*	*SE*	95% C.I.	*b*	*SE*	95% C.I.	*b*	*SE*	95% C.I.
Extraversion	.21**	.07	[.06 ; .36]	.13	.07	[-.02 ; .27]	.13	.07	[-.02 ; .27]	.27***	.07	[.13 ; .42]
Agreeableness	-.05	.09	[-.23 ; .12]	-.04	.08	[-.21 ; .12]	.13	.08	[-.02 ; .28]	.05	.08	[-.10 ; .20]
Conscientiousness	.07	.07	[-.07 ; .22]	.19**	.07	[.05 ; .33]	.03	.08	[-.12 ; .18]	.08	.08	[-.07 ; .23]
Neuroticism	.07	.07	[-.07 ; .21]	.12	.07	[-.03 ; .25]	.27***	.07	[.13 ; .40]	.29***	.07	[.16 ; .42]
Openness	-.02	.06	[-.13 ; .09]	.12*	.06	[.01 ; .24]	.05	.06	[-.07 ; .17]	.02	.06	[-.10 ; .16]
Machiavellianism	.04	.07	[-.10 ; .18]	.07	.07	[-.07 ; .21]	.08	.06	[-.05 ; .20]	.03	.06	[-.09 ; .16]
Psychopathy	.18*	.08	[.03 ; .34]	.09	.07	[-.05 ; .22]	.02	.07	[-.11 ; .16]	-.09	.07	[-.23 ; .05]
Narcissism	.01	.07	[-.12 ; .15]	.08	.07	[-.05 ; .21]	-.07	.07	[-.20 ; .06]	-.08	.07	[-.21 ; .06]
Trait EI	.04	.08	[-.12 ; .20]	.09	.08	[-.06 ; .24]	.18*	.08	[.03 ; .33]	.03	.08	[-.12 ; .18]
Model *R-square*	**.08***	**.03**		**.10****	**.03**		**.08****	**.03**		**.10****	**.03**	

	Extrinsic Affect Worsening Strategies											
	Confrontation			Withdrawal			Behavioral Engagement			Affective Engagement		
	b	*SE*	95% C.I.	*b*	*SE*	95% C.I.	*b*	*SE*	95% C.I.	*b*	*SE*	95% C.I.
Extraversion	.13	.09	[-.03 ; .29]	.12	.08	[-.03 ; .27]	.07	.07	[-.07 ; .21]	.18*	.08	[.02 ; .35]
Agreeableness	-.07	.09	[-.25 ; .11]	-.09	.08	[-.25 ; .07]	-.04	.08	[-.18 ; .11]	.00	.09	[-.17 ; .18]
Conscientiousness	-.03	.08	[-.19 ; .13]	-.07	.07	[-.22 ; .07]	-.01	.08	[-.16 ; .13]	.07	.08	[-.10 ; .23]
Neuroticism	.20*	.08	[.04 ; .35]	.11	.07	[-.03 ; .25]	.12	.07	[-.01 ; .26]	.20**	.07	[.07 ; .33]
Openness	-.05	.08	[-.16 ; .07]	-.06	.06	[-.18 ; .05]	.04	.05	[-.06 ; .15]	.03	.05	[-.08 ; .13]
Machiavellianism	.16*	.06	[.01 ; .31]	.17*	.07	[.03 ; .30]	.16*	.07	[.02 ; .29]	.21**	.08	[.05 ; .36]
Psychopathy	.12	.08	[-.04 ; .28]	.07	.08	[-.09 ; .23]	.05	.07	[-.10 ; .19]	-.04	.07	[-.18 ; .09]
Narcissism	.00	.07	[-.13 ; .13]	.02	.06	[-.10 ; .15]	.14*	.06	[.01 ; .26]	.04	.08	[-.13 ; .20]
Trait EI	.03	.08	[-.14 ; .19]	.01	.09	[-.16 ; .18]	.00	.08	[-.15 ; .16]	-.06	.09	[-.23 ; .11]
Model *R-square*	**.14****	**.04**		**.13****	**.04**		**.12****	**.03**		**.10****	**.04**	

Note. Standardised estimates. C.I. = Confidence Intervals. EI = Emotional Intelligence.

* = p < .05; ** = p < .01; *** = p < .001.

4.3.1. Affect Improving Extrinsic Regulation Strategies

Table 8 shows the standardized path coefficients and R^2 values for personality domains on all extrinsic emotion regulation strategies. Extraversion, conscientiousness, openness, neuroticism and emotional intelligence significantly and positively predicted the selection of some affect improving extrinsic regulation strategies, but agreeableness did not. Specifically, extraversion significantly and positively predicted the use of suppression, humor, situation modification and valuing. Conscientiousness and openness predicted the use of reappraisal. Neuroticism predicted the use of listening, valuing, and humor. Emotional intelligence predicted the use of listening and humor.

Narcissism, Machiavellianism and psychopathy did not negatively relate to affect improving strategies, but significantly and positively related to some extrinsic affect improving strategies. Specifically, Machiavellianism predicted the use of downward comparison, suppression, and distraction. Narcissism predicted the use of distraction, whereas psychopathy predicted the use of situation modification.

4.3.2. Affect Worsening Extrinsic Regulation Strategies

Neuroticism, Machiavellianism, and narcissism significantly and positively related to extrinsic affect worsening strategies, whereas psychopathy did not. Specifically, Machiavellianism significantly and positively predicted the use of all four extrinsic affect worsening strategies. Neuroticism significantly and positively predicted the use of confrontation and affective engagement, whereas narcissism predicted the use of behavioral engagement. Extraversion significantly and positively related to affective engagement. There were no significant negative associations between agreeableness, conscientiousness and the four extrinsic affect worsening strategies.

4.4. Discussion

Study 2 examined whether personality domains predicted the selection of eight specific affect improving extrinsic regulation strategies and four specific affect worsening extrinsic regulation strategies using a 7-day daily diary paradigm. Drawn from conceptual correspondences between personality and extrinsic emotion regulation, and from intrinsic emotion regulation research, we expected that different regulation strategies would show different patterns of relationships to the nine personality traits. This was tested in an exploratory fashion.

Focusing on the eight affect-improving extrinsic strategies first, humor, situation modification and valuing were all predicted by extraversion. Hughes et al. (2020) outlined that "extraverts are typically proactive, regulating their emotions by modifying rather than avoiding situations" (2020, p. 9). Although the regulation of our own versus others' emotions are different processes, extraversion has been linked to higher enacted social support (in the form of guidance, social interaction and assistance; Swickert et al., 2002), as well as higher perceived availability of social support (Swickert et al., 2010). Arguably, extraverts interact more with others and seem to use more extrinsic regulation strategies in general (and perhaps receive more regulation in return).

Humor was also predicted by neuroticism and self-rated emotional intelligence. As humor is characterized by the emotion of amusement and is linked to the experience of (emotional) incongruity (Warren & McGraw, 2016), individuals who use humor likely have personality traits reflecting the experience and understanding of emotions. Humor can be a positive strategy, reducing negative affect in young and older adults (Harm et al., 2014), romantic couples (Horn et al., 2018), and at work (Cann et al., 2014). However, humor can also

be maladaptive (Samson & Gross, 2012). Humor did not predict affect worsening strategies in this study, perhaps due to the lack of specificity on the type of humor that was used. Martin (2007) outlined that humor can be divided into four categories, namely: affiliative humor (telling jokes to amuse others), self-enhancing humor (keeping a humorous outlook on life), aggressive humor (making a joke at the expense of the other) and self-defeating humor (putting oneself down). The first two types of humor have been found to be adaptive (increasing happiness; Martin, 2007), whereas the latter two are deemed maladaptive (linked to psychopathology; Samson & Gross, 2012). Interestingly, aggressive humor has been found to positively link to callous-unemotional traits, whereas self-defeating and affiliative humor had a negative relationship (Young & Kyranides, 2022). Future research could examine the relationship between personality traits and a wider range of humor-based extrinsic regulation strategies to provide further nuance.

The selection of reappraisal was positively predicted by openness and conscientiousness. Reappraisal is known to be an effortful strategy when used to regulate one's own emotions, and recent research shows that extrinsic reappraisal is still effortful—as helping another person reappraise their emotions is cognitively taxing (Matthews et al., 2022). People high in openness and conscientiousness may be more willing to engage in this more cognitively demanding high-investment strategy— domains hallmarked by dutifulness and deliberation (conscientiousness) and liking complex ideas and having a vivid imagination (openness). Alternatively, perhaps these traits make individuals better at using reappraisal in an effective way. Effectiveness of the regulation for the target was not measured, but should be considered in future research.

Interestingly, agreeableness did not predict any of the extrinsic regulation strategies, despite being one of the strongest predictors in study 1. This likely reflects the examination of the

different stages of the Extended Process Model (Gross, 2015). Agreeableness seems to be an important driver in the decision to regulate guided by pro-hedonic goals. Research predicting intrinsic regulation goals from Big Five personality traits shows that agreeableness is the strongest and most consistent predictor of pro-hedonic goals - agreeable people consistently set goals to make themselves feel good (Eldesouky & English, 2019). Our findings support the importance of agreeableness in the identification stage of extrinsic emotion regulation, but not the selection stage.

As expected, the selection of extrinsic affect worsening strategies was positively predicted by Machiavellianism. Interestingly, Machiavellianism also predicted the selection of downward comparison. Although labeled an 'affect improving' strategy, downward comparison could be used for personal gains or other 'non-pro-social' motives. Machiavellianism is context-dependent- distinguishing selfishness and pretending altruism when in the presence of others (Bereczkei et al., 2010). When an 'affect improving' strategy is used, the goal is perhaps not to make the other feel better, but for another (instrumental) goal, or because of a lack of caring for the other.

The selection of affective engagement moreover positively related to extraversion and neuroticism. Confrontation was predicted by neuroticism only. Notably, neuroticism positively related to affect improving and affect worsening strategies. Findings on longitudinal relations between intrinsic emotion regulation and neuroticism indicates that people high in neuroticism experience higher emotional ambivalence (a marker of low emotion regulation linked to impulsivity and anxiety) and use less strategies to 'repair' negative emotions (Kokkonen & Pulkkinen, 2001). Neurotic individuals engaged in behaviors to make other's feel better, as well

as worse. Seemingly, the experience of emotional ambivalence extends to incongruent extrinsic strategy selection.

Behavioral engagement was furthermore positively predicted by narcissism, as was affect improving strategy distraction. While the potential reasons for differential use of affect worsening and affect improving strategies in narcissism are myriad, these findings could reflect the use of an overall score, instead of a separation into grandiose and vulnerable narcissism. Grandiose and vulnerable narcissists may rely on different strategies due to attachment insecurity (i.e., a difficulty in forming relations with others, stemming from experiences in early childhood; Bowlby, 1979). Grandiose narcissism is linked to avoidant attachment (Menon et al., 2018), characterized by tendencies to push others away and avoid closeness. Grandiose narcissists see themselves as dominant and assertive and do not experience interpersonal distress, yet negatively impact others (Dickinson & Pincus, 2003). Vulnerable narcissists on the other hand score high on anxious attachment, wanting to be close with others but being afraid of rejection or abandonment. Vulnerable narcissists report higher interpersonal distress caused by avoidant interpersonal problems (Dickinson & Pincus, 2003), like a lack of confidence in the ability to initiate and maintain social relationships. Future research could examine whether these views influence the type of regulation strategies grandiose versus vulnerable narcissists use; grandiose narcissists may pressure others, whereas vulnerable narcissists may resort to distraction – a more avoidant strategy.

Results from study 2 show that personality traits link to extrinsic emotion regulation strategy selection in a differential manner. These findings have important implications. While the effectiveness of any emotion regulation process depends on the regulation context, meta-analyses on intrinsic emotion regulation show that some emotion regulation processes are generally more

effective than others (Webb et al., 2012). Although not tested in the current study, extrinsic emotion regulation has been found to influence various outcomes, including psychological intimacy (Horn et al., 2019), job performance (Vasquez et al., 2020), and conflict (Thiel et al., 2018). Knowing which personality traits influence the selection of specific strategies can help bring awareness of these tendencies to the regulator – allowing them to potentially change their behavior and select more adaptive strategies. Future research could consider whether personality influences inter- and intrapersonal outcomes through extrinsic emotion regulation strategy selection.

5. General Discussion

In study 1, we conducted a meta-analysis to examine which personality traits relate to extrinsic emotion regulation, testing whether personality/regulation relationships differed for extrinsic affect improving (a pro-hedonic goal) versus extrinsic affect worsening (a contra-hedonic goal). Personality predicted extrinsic emotion regulation, and effects were in opposing directions for affect improving versus worsening. In study 2, we conducted a daily diary study examining whether nine personality traits (big five, dark triad, and self-rated emotional intelligence) predicted the selection of twelve extrinsic emotion regulation strategies. We found that extraversion and neuroticism related to the selection of most affect-improving regulation strategies, whereas Machiavellianism related to all affect worsening strategies.

Overarchingly, extrinsic emotion regulation identification more strongly related to 'pro-social' and 'anti-social' traits (honesty-humility, agreeableness, emotional intelligence and Dark Triad traits). Extrinsic strategy selection showed strong relations with 'emotional' traits neuroticism and extraversion. While this might look like a distinction between methods, we believe it more likely reflects a distinction between the regulation stages —the formation of

regulation goals (the identification stage) and the choice of strategies (the selection stage) relate to different personality traits. As a starting point, the current study suggests which personality domains are involved at which stages of the Extended Process Model.

5.1. Limitations and Future Research

This research has several limitations. Firstly, our research did not examine goals in the way prior intrinsic emotion regulation research has (English et al., 2017). We examined the regulation of emotions *in order to achieve hedonic goals* rather than assessing regulation goals as separate from the act of engaging in regulation. It is possible that people were selecting suppression to reduce someone's positive affect (i.e., for contra-hedonic reasons) even though we classified this as affect improving. Moreover, instrumental goals, such as regulating the other to get work done (English et al., 2017) were not considered. Future research could further extend the application of the Extended Process Model's identification stage to extrinsic emotion regulation by assessing a broader range of regulation goals.

The daily diary study only includes actor (i.e., the individual doing the regulation) reports of the extrinsic regulation, but not target (i.e. the individual whose emotions are regulated) reports. Therefore, it was not possible to validate the actors' report with target's reports. As individual views and experiences may differ (Walker et al., 2023), it is important to validate current findings using a dyadic approach - examining both actor and target reports of the same extrinsic regulation event.

This study did not examine the implementation stage nor the earlier cycles (perception and valuation) of the identification stage. Examining the influence of personality traits across all emotion regulation cycles and stages can help create a more nuanced understanding of individual

differences in relation to extrinsic emotion regulation (Hughes et al., 2020). For example, emotional intelligence may help individuals to identify the need to regulate others' emotions via the perception cycle, whereas agreeableness might relate to identifying the need to regulate others' emotions via the valuation cycle (placing personal value on others' emotional state, related to altruism and sympathy). This is an important undertaking for future research.

Finally, although the meta-analysis examined the relationship of honesty-humility to extrinsic emotion regulation, this personality domain was not included in the daily diary study (to avoid over-tasking our participants, and because of the strong relationship between honesty-humility and the Dark Triad; Hodson et al., 2019; Howard & Van Zandt, 2020). As such, no further insights on extrinsic emotion regulation strategies selection in daily life, in relation to this trait can be provided.

5.2. Conclusion

To help establish whether personality domains influence the identification and selection stages of extrinsic emotion regulation, a meta-analysis and daily diary study were conducted. The current meta-analytic findings indicate that openness, conscientiousness, extraversion, agreeableness, honesty-humility and emotional intelligence positively relate to the identification to engage in 'affect improving' extrinsic regulation, whereas psychopathy and Machiavellianism negatively relate to 'affect improving' regulation. Global 'affect worsening' extrinsic regulation related positively with neuroticism, narcissism, Machiavellianism and psychopathy, and negatively with conscientiousness, agreeableness, honesty-humility and emotional intelligence. Daily diary results provided a nuanced understanding of the relationship between personality

domains and the selection of eight specific ‘affect improving’ strategies, and four ‘affect worsening’ strategies in daily life.

Contributing to the emotion regulation literature, this study evidences that there are individual differences influencing the identification and selection stage of the Extended Process Model (Gross, 2015), applied to extrinsic emotion regulation. Pro-social and anti-social traits showed the strongest associations with affect improving (pro-hedonic) and affect worsening (contra-hedonic) extrinsic emotion regulation, whereas the selection of particular strategies was more strongly related to emotion-related traits (extraversion and neuroticism), particularly for affect improving regulation. Different regulation strategies showed different patterns of association with personality traits. These findings offer an important contribution to our understanding of what drives extrinsic emotion regulation and helps solidify our understanding of the relationship between personality and extrinsic emotion regulation.

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Appendix A

Daily Diary Survey Items

Interaction questions

1. Did you interact with anyone today (in person, on the phone, on Zoom etc)? [yes] [no]

<If 'yes' go to Q2> <If 'no' go to 'non-interaction questions>

2. Who as the main person you interacted with today?

[friend] [partner] [workmate] [son/daughter] [brother/sister] [parent] [supervisor] [co-worker] [employee/direct report] [other]

3. What is their gender?
    a. Male
    b. Female
    c. Their gender cannot be described by the first 2 options
4. How close are you to this person? (1) not at all close --- (100) very close
5. Think of your last meaningful interaction with this person today.

    What was happening the beginning of this interaction?

    (e.g., 'chatting about TV show', 'planning vacation', 'arguing about housework')?

    _____

How well do the phrases below describe the situation **<u>at the beginning of this interaction</u>**?

6. Work had to be done (1) not at all --- (100) very much
7. Deep thinking was required (1) not at all --- (100) very much
8. Someone was being threatened, blamed, or criticized (1) not at all --- (100) very much

9. The situation was enjoyable (1) not at all --- (100) very much
10. The situation included negative feelings (1) not at all --- (100) very much
    (e.g., stress, anxiety, guilt)
11. Someone was being deceived (1) not at all --- (100) very much
12. Social interaction was possible or required (1) not at all --- (100) very much

In this interaction, how much did you do the following things to **change this person's emotions**?

13. I took action to change their situation (1) not at all --- (100) very much
14. I used jokes or humour to make them smile (1) not at all --- (100) very much
15. I asked them to hide how they were feeling (1) not at all --- (100) very much
16. I diverted their attention to something else (1) not at all --- (100) very much
17. I helped them see events in a new way (1) not at all --- (100) very much
18. I let them know how much they mean to me (1) not at all --- (100) very much
19. I listened to them talk about their emotions (1) not at all --- (100) very much
20. I compared their situation to other people who are worse off
    (1) not at all --- (100) very much
21. I criticized them (1) not at all --- (100) very much
22. I was rude to them (1) not at all --- (100) very much
23. I asked them to do stressful tasks (1) not at all --- (100) very much
24. I put them under pressure (1) not at all --- (100) very much
25. I ignored them (1) not at all --- (100) very much
26. I disregarded their opinions (1) not at all --- (100) very much
27. I made them think they had done something hurtful (1) not at all --- (100) very much

28. I explained why their actions were morally wrong (1) not at all --- (100) very much

Non-interaction questions

(participants answer these on days where they have not interacted with anyone)

How are you feeling today?

1. Irritated (1) not at all --- (100) very much
2. Anxious (1) not at all --- (100) very much
3. Contented (1) not at all --- (100) very much
4. Excited (1) not at all --- (100) very much
5. Think back to the situation you were in <u>just after lunch</u>. Describe that situation in a brief phrase (e.g., reading a book, walking the dog, doing my taxes etc).

_____

How well do the phrases below describe the situation?

6. Work had to be done (1) not at all --- (100) very much
7. Deep thinking was required (1) not at all --- (100) very much
8. Someone was being threatened, blamed, or criticized (1) not at all --- (100) very much
9. Potential romantic partners were present (1) not at all --- (100) very much
10. The situation was enjoyable (1) not at all --- (100) very much
11. The situation included negative feelings (e.g., stress, anxiety, guilt) (1) not at all --- (100) very much
12. Someone was being deceived (1) not at all --- (100) very much

Thinking over today, how much did you do the following things to change your emotions?

13. I thought about an emotional event again and again (1) not at all --- (100) very much

14. I thought of other ways to interpret the situation (1) not at all --- (100) very much

15. I engaged in activities to distract myself (1) not at all --- (100) very much

16. I made an effort to hide my feelings (1) not at all --- (100) very much

17. I continually thought about what was bothering me (1) not at all --- (100) very much

18. I looked at the situation from several different angles (1) not at all --- (100) very much

19. I engaged in something else to keep busy (1) not at all --- (100) very much

20. I pretended I wasn't upset (1) not at all --- (100) very much

Why did you try to change your emotions?

21. to concentrate on the work I was carrying out (1) not at all - (100) very much

22. to remain focused on the task I was working on (1) not at all - (100) very much

23. to feel less negative emotions (1) not at all - (100) very much

24. to feel more positive emotions (1) not at all - (100) very much

25. to feel more negative emotions (1) not at all - (100) very much

26. to feel less positive emotions (1) not at all - (100) very much

Supplemental Material

Table 1

Characteristics of included studies

Author(s) & year	Sample Demographics				Extrinsic Regulation	Regulation Measure	Personality Trait	Personality Measure	Corr	Corrected Corr
	Study #	N	% female	Mean Age						
Abell et al. (2016)	1	221	1	27.55	worsen	MEOS_SF	Machiavellianism	Mach-IV	0.39	0.49
Abell et al. (2016)	1	221	1	27.55	inauthentic	MEOS_SF	Machiavellianism	Mach-IV	0.37	0.46
Austin & O'Donnell (2013)	2	695	0.77	24.3	enhance	MEOS	Neuroticism	Mini-IPIP	-0.03	
Austin & O'Donnell (2013)	2	695	0.77	24.3	enhance	MEOS	Extraversion	Mini-IPIP	0.19	
Austin & O'Donnell (2013)	2	695	0.77	24.3	enhance	MEOS	Openness	Mini-IPIP	0.23	
Austin & O'Donnell (2013)	2	695	0.77	24.3	enhance	MEOS	Agreeableness	Mini-IPIP	0.55	
Austin & O'Donnell (2013)	2	695	0.77	24.3	enhance	MEOS	Conscientiousness	Mini-IPIP	0.12	
Austin & O'Donnell (2013)	2	695	0.77	24.3	enhance	MEOS	Machiavellianism	Dirty Dozen	-0.14	
Austin & O'Donnell (2013)	2	695	0.77	24.3	enhance	MEOS	Psychopathy	Dirty Dozen	-0.34	
Austin & O'Donnell (2013)	2	695	0.77	24.3	enhance	MEOS	Narcissism	Dirty Dozen	-0.1	
Austin & O'Donnell (2013)	2	695	0.77	24.3	enhance	MEOS	EI total	TEIQue	0.37	
Austin & O'Donnell (2013)	2	695	0.77	24.3	worsen	MEOS	Agreeableness	Mini-IPIP	-0.25	-0.3
Austin & O'Donnell (2013)	2	695	0.77	24.3	inauthentic	MEOS	Agreeableness	Mini-IPIP	-0.11	-0.14
Austin & O'Donnell (2013)	2	695	0.77	24.3	worsen	MEOS	Conscientiousness	Mini-IPIP	-0.1	-0.12
Austin & O'Donnell (2013)	2	695	0.77	24.3	inauthentic	MEOS	Conscientiousness	Mini-IPIP	-0.17	-0.21
Austin & O'Donnell (2013)	2	695	0.77	24.3	worsen	MEOS	EI total	TEIQue	-0.11	-0.12
Austin & O'Donnell (2013)	2	695	0.77	24.3	inauthentic	MEOS	EI total	TEIQue	-0.25	-0.29
Austin & O'Donnell (2013)	2	695	0.77	24.3	worsen	MEOS	Extraversion	Mini-IPIP	0.12	0.14
Austin & O'Donnell (2013)	2	695	0.77	24.3	inauthentic	MEOS	Extraversion	Mini-IPIP	0.03	0.04
Austin & O'Donnell (2013)	2	695	0.77	24.3	worsen	MEOS	Machiavellianism	Dirty Dozen	0.55	0.66
Austin & O'Donnell (2013)	2	695	0.77	24.3	inauthentic	MEOS	Machiavellianism	Dirty Dozen	0.59	0.72
Austin & O'Donnell (2013)	2	695	0.77	24.3	worsen	MEOS	Narcissism	Dirty Dozen	0.4	0.48
Austin & O'Donnell (2013)	2	695	0.77	24.3	inauthentic	MEOS	Narcissism	Dirty Dozen	0.53	0.65
Austin & O'Donnell (2013)	2	695	0.77	24.3	worsen	MEOS	Neuroticism	Mini-IPIP	0.08	0.1
Austin & O'Donnell (2013)	2	695	0.77	24.3	inauthentic	MEOS	Neuroticism	Mini-IPIP	0.23	0.3
Austin & O'Donnell (2013)	2	695	0.77	24.3	worsen	MEOS	Openness	Mini-IPIP	-0.04	-0.05
Austin & O'Donnell (2013)	2	695	0.77	24.3	inauthentic	MEOS	Openness	Mini-IPIP	-0.09	-0.11
Austin & O'Donnell (2013)	2	695	0.77	24.3	worsen	MEOS	Psychopathy	Dirty Dozen	0.44	0.54
Austin & O'Donnell (2013)	2	695	0.77	24.3	inauthentic	MEOS	Psychopathy	Dirty Dozen	0.26	0.33
Austin & Vahle (2016)	1	380	0.78	22.3	enhance	MEOS	Honesty-Humility	HEXACO	0.2	
Austin & Vahle (2016)	1	380	0.78	22.3	enhance	MEOS	Emotionality	HEXACO	0.23	
Austin & Vahle (2016)	1	380	0.78	22.3	enhance	MEOS	Extraversion	HEXACO	0.29	

Austin & Vahle (2016)	1	380	0.78	22.3	enhance	MEOS	Agreeableness	HEXACO	0.27	
Austin & Vahle (2016)	1	380	0.78	22.3	enhance	MEOS	Conscientiousness	HEXACO	0.2	
Austin & Vahle (2016)	1	380	0.78	22.3	enhance	MEOS	Openness	HEXACO	0.17	
Austin & Vahle (2016)	1	380	0.78	22.3	enhance	MEOS	Wellbeing	TEIQue	0.33	
Austin & Vahle (2016)	1	380	0.78	22.3	enhance	MEOS	Self-Control	TEIQue	0.13	
Austin & Vahle (2016)	1	380	0.78	22.3	enhance	MEOS	Emotionality	TEIQue	0.53	
Austin & Vahle (2016)	1	380	0.78	22.3	enhance	MEOS	Social Competence	TEIQue	0.35	
Austin & Vahle (2016)	1	380	0.78	22.3	enhance	MEOS	EI total	TEIQue	0.44	
Austin & Vahle (2016)	1	380	0.78	22.3	worsen	MEOS	Agreeableness	HEXACO	-0.42	-0.5
Austin & Vahle (2016)	1	380	0.78	22.3	inauthentic	MEOS	Agreeableness	HEXACO	-0.28	-0.34
Austin & Vahle (2016)	1	380	0.78	22.3	worsen	MEOS	Conscientiousness	HEXACO	-0.26	-0.31
Austin & Vahle (2016)	1	380	0.78	22.3	inauthentic	MEOS	Conscientiousness	HEXACO	-0.29	-0.35
Austin & Vahle (2016)	1	380	0.78	22.3	worsen	MEOS	EI total	TEIQue	-0.22	-0.24
Austin & Vahle (2016)	1	380	0.78	22.3	inauthentic	MEOS	EI total	TEIQue	-0.27	-0.3
Austin & Vahle (2016)	1	380	0.78	22.3	worsen	MEOS	Emotionality	TEIQue	-0.37	-0.41
Austin & Vahle (2016)	1	380	0.78	22.3	inauthentic	MEOS	Emotionality	TEIQue	-0.25	-0.29
Austin & Vahle (2016)	1	380	0.78	22.3	worsen	MEOS	Emotionality	HEXACO	-0.13	-0.16
Austin & Vahle (2016)	1	380	0.78	22.3	inauthentic	MEOS	Emotionality	HEXACO	0.17	0.21
Austin & Vahle (2016)	1	380	0.78	22.3	worsen	MEOS	Extraversion	HEXACO	0	0
Austin & Vahle (2016)	1	380	0.78	22.3	inauthentic	MEOS	Extraversion	HEXACO	-0.06	-0.07
Austin & Vahle (2016)	1	380	0.78	22.3	worsen	MEOS	Honesty-Humility	HEXACO	-0.4	-0.49
Austin & Vahle (2016)	1	380	0.78	22.3	inauthentic	MEOS	Honesty-Humility	HEXACO	-0.55	-0.69
Austin & Vahle (2016)	1	380	0.78	22.3	worsen	MEOS	Openness	HEXACO	-0.07	-0.08
Austin & Vahle (2016)	1	380	0.78	22.3	inauthentic	MEOS	Openness	HEXACO	-0.05	-0.06
Austin & Vahle (2016)	1	380	0.78	22.3	worsen	MEOS	Self-Control	TEIQue	-0.17	-0.2
Austin & Vahle (2016)	1	380	0.78	22.3	inauthentic	MEOS	Self-Control	TEIQue	-0.34	-0.4
Austin & Vahle (2016)	1	380	0.78	22.3	worsen	MEOS	Social Competence	TEIQue	0.11	0.13
Austin & Vahle (2016)	1	380	0.78	22.3	inauthentic	MEOS	Social Competence	TEIQue	0	0
Austin & Vahle (2016)	1	380	0.78	22.3	worsen	MEOS	Wellbeing	TEIQue	-0.16	-0.18
Austin & Vahle (2016)	1	380	0.78	22.3	inauthentic	MEOS	Wellbeing	TEIQue	-0.19	-0.21
Austin et al. (2018)	3	394	0.80	19.5	enhance	MEOS	Honesty-Humility	HEXACO	0.26	
Austin et al. (2018)	3	394	0.80	19.5	enhance	MEOS	Neuroticism	HEXACO	0.18	
Austin et al. (2018)	3	394	0.80	19.5	enhance	MEOS	Extraversion	HEXACO	0.28	
Austin et al. (2018)	3	394	0.80	19.5	enhance	MEOS	Agreeableness	HEXACO	0.26	
Austin et al. (2018)	3	394	0.80	19.5	enhance	MEOS	Conscientiousness	HEXACO	0.25	
Austin et al. (2018)	3	394	0.80	19.5	enhance	MEOS	Openness	HEXACO	0.22	
Austin et al. (2018)	3	394	0.80	19.5	enhance	MEOS	Self-Appraisal	WLEIS	0.22	
Austin et al. (2018)	3	394	0.80	19.5	enhance	MEOS	Other-Appraisal	WLEIS	0.47	
Austin et al. (2018)	3	394	0.80	19.5	enhance	MEOS	Use of emotion	WLEIS	0.29	
Austin et al. (2018)	3	394	0.80	19.5	enhance	MEOS	Emotion Regulation	WLEIS	0.15	

Austin et al. (2018)	3	394	0.80	19.5	enhance	MEOS	EI total	TEIQue	0.35	
Austin et al. (2018)	4	226	0.76	19.3	enhance	MEOS	Honesty-Humility	HEXACO	0.19	
Austin et al. (2018)	4	226	0.76	19.3	enhance	MEOS	Neuroticism	HEXACO	0.22	
Austin et al. (2018)	4	226	0.76	19.3	enhance	MEOS	Extraversion	HEXACO	0.21	
Austin et al. (2018)	4	226	0.76	19.3	enhance	MEOS	Agreeableness	HEXACO	0.24	
Austin et al. (2018)	4	226	0.76	19.3	enhance	MEOS	Conscientiousness	HEXACO	0.14	
Austin et al. (2018)	4	226	0.76	19.3	enhance	MEOS	Openness	HEXACO	0.06	
Austin et al. (2018)	4	226	0.76	19.3	enhance	MEOS	Self-Appraisal	WLEIS	0.18	
Austin et al. (2018)	4	226	0.76	19.3	enhance	MEOS	Other-Appraisal	WLEIS	0.58	
Austin et al. (2018)	4	226	0.76	19.3	enhance	MEOS	Use of emotion	WLEIS	0.26	
Austin et al. (2018)	4	226	0.76	19.3	enhance	MEOS	Emotion Regulation	WLEIS	0.17	
Austin et al. (2018)	4	226	0.76	19.3	enhance	MEOS	Emotion Management	TEIQue	0.22	
Austin et al. (2018)	4	226	0.76	19.3	enhance	MEOS	Relationships	TEIQue	0.42	
Austin et al. (2018)	4	226	0.76	19.3	enhance	MEOS	Social Competence	TEIQue	0.31	
Austin et al. (2018)	4	226	0.76	19.3	enhance	MEOS	Empathy	TEIQue	0.53	
Austin et al. (2018)	3	394	0.80	19.5	worsen	MEOS	Agreeableness	HEXACO	-0.42	-0.5
Austin et al. (2018)	3	394	0.80	19.5	inauthentic	MEOS	Agreeableness	HEXACO	-0.36	-0.44
Austin et al. (2018)	4	226	0.76	19.3	worsen	MEOS	Agreeableness	HEXACO	-0.45	-0.53
Austin et al. (2018)	4	226	0.76	19.3	inauthentic	MEOS	Agreeableness	HEXACO	-0.33	-0.41
Austin et al. (2018)	3	394	0.80	19.5	worsen	MEOS	Conscientiousness	HEXACO	-0.29	-0.34
Austin et al. (2018)	3	394	0.80	19.5	inauthentic	MEOS	Conscientiousness	HEXACO	-0.26	-0.32
Austin et al. (2018)	4	226	0.76	19.3	worsen	MEOS	Conscientiousness	HEXACO	-0.13	-0.15
Austin et al. (2018)	4	226	0.76	19.3	inauthentic	MEOS	Conscientiousness	HEXACO	-0.13	-0.16
Austin et al. (2018)	3	394	0.80	19.5	worsen	MEOS	EI total	TEIQue	-0.22	-0.25
Austin et al. (2018)	3	394	0.80	19.5	inauthentic	MEOS	EI total	TEIQue	-0.27	-0.32
Austin et al. (2018)	4	226	0.76	19.3	worsen	MEOS	Emotion Management	TEIQue	0.27	0.34
Austin et al. (2018)	4	226	0.76	19.3	inauthentic	MEOS	Emotion Management	TEIQue	0.12	0.16
Austin et al. (2018)	4	226	0.76	19.3	worsen	MEOS	Empathy	TEIQue	-0.42	-0.5
Austin et al. (2018)	4	226	0.76	19.3	inauthentic	MEOS	Empathy	TEIQue	-0.3	-0.38
Austin et al. (2018)	3	394	0.80	19.5	worsen	MEOS	Extraversion	HEXACO	-0.08	-0.09
Austin et al. (2018)	3	394	0.80	19.5	inauthentic	MEOS	Extraversion	HEXACO	-0.11	-0.13
Austin et al. (2018)	4	226	0.76	19.3	worsen	MEOS	Extraversion	HEXACO	0.04	0.05
Austin et al. (2018)	4	226	0.76	19.3	inauthentic	MEOS	Extraversion	HEXACO	-0.07	-0.09
Austin et al. (2018)	3	394	0.80	19.5	worsen	MEOS	Honesty-Humility	HEXACO	-0.48	-0.59
Austin et al. (2018)	3	394	0.80	19.5	inauthentic	MEOS	Honesty-Humility	HEXACO	-0.54	-0.69
Austin et al. (2018)	3	394	0.80	19.5	worsen	MEOS	Honesty-Humility	HEXACO	-0.42	-0.52
Austin et al. (2018)	4	394	0.80	19.5	inauthentic	MEOS	Honesty-Humility	HEXACO	-0.55	-0.72
Austin et al. (2014)	1	365	0.67	18.63	enhance	MEOS	Neuroticism	minimarkers	-0.07	
Austin et al. (2014)	1	366	0.67	18.63	enhance	MEOS	Extraversion	minimarkers	0.14	
Austin et al. (2014)	1	362	0.67	18.63	enhance	MEOS	Openness	minimarkers	0.14	

Austin et al. (2014)	1	366	0.67	18.63	enhance	MEOS	Agreeableness	minimarkers	0.52	
Austin et al. (2014)	1	359	0.67	18.63	enhance	MEOS	Conscientiousness	minimarkers	0.21	
Austin et al. (2014)	1	357	0.67	18.63	enhance	MEOS	EI total	TEIQue	0.4	
Austin et al. (2014)	1	347	0.67	18.63	enhance	MEOS	Machiavellianism	Mach-IV	-0.35	
Austin et al. (2014)	1	355	0.67	18.63	enhance	MEOS	Grandiose Narcissism	NPI-16	-0.13	
Austin et al. (2014)	1	362	0.67	18.63	enhance	MEOS	Vulnerable Narcissism	HSNS	-0.17	
Austin et al. (2014)	1	363	0.67	18.63	enhance	MEOS	Primary Psychopathy	LSRP	-0.4	
Austin et al. (2014)	1	364	0.67	18.63	enhance	MEOS	Secondary Psychopathy	LSRP	-0.29	
Austin et al. (2014)	2	394	0.76	22.25	enhance	MEOS	Neuroticism	minimarkers	-0.14	
Austin et al. (2014)	2	394	0.76	22.25	enhance	MEOS	Extraversion	minimarkers	0.14	
Austin et al. (2014)	2	393	0.76	22.25	enhance	MEOS	Openness	minimarkers	-0.23	
Austin et al. (2014)	2	387	0.76	22.25	enhance	MEOS	Agreeableness	minimarkers	0.54	
Austin et al. (2014)	2	389	0.76	22.25	enhance	MEOS	Conscientiousness	minimarkers	0.29	
Austin et al. (2014)	2	362	0.76	22.25	enhance	MEOS	EI total	TEIQue	0.38	
Austin et al. (2014)	2	378	0.76	22.25	enhance	MEOS	Machiavellianism	Mach-IV	-0.29	
Austin et al. (2014)	2	382	0.76	22.25	enhance	MEOS	Grandiose Narcissism	NPI-16	-0.16	
Austin et al. (2014)	2	386	0.76	22.25	enhance	MEOS	Vulnerable Narcissism	HSNS	-0.14	
Austin et al. (2014)	2	375	0.76	22.25	enhance	MEOS	Primary Psychopathy	LSRP	-0.44	
Austin et al. (2014)	2	387	0.76	22.25	enhance	MEOS	Secondary Psychopathy	LSRP	-0.32	
Austin et al. (2018)	3	394	0.80	19.5	worsen	MEOS	Neuroticism	HEXACO	-0.12	-0.14
Austin et al. (2018)	3	394	0.80	19.5	inauthentic	MEOS	Neuroticism	HEXACO	0.16	0.2
Austin et al. (2018)	4	226	0.76	19.3	worsen	MEOS	Neuroticism	HEXACO	-0.13	-0.16
Austin et al. (2018)	4	226	0.76	19.3	inauthentic	MEOS	Neuroticism	HEXACO	0.13	0.17
Austin et al. (2018)	3	394	0.80	19.5	worsen	MEOS	Openness	HEXACO	-0.14	-0.17
Austin et al. (2018)	3	394	0.80	19.5	inauthentic	MEOS	Openness	HEXACO	-0.13	-0.16
Austin et al. (2018)	4	226	0.76	19.3	worsen	MEOS	Openness	HEXACO	-0.1	-0.12
Austin et al. (2018)	4	226	0.76	19.3	inauthentic	MEOS	Openness	HEXACO	0.05	0.06
Austin et al. (2018)	3	394	0.80	19.5	worsen	MEOS	Other-Appraisal	WLEIS	-0.24	-0.28
Austin et al. (2018)	3	394	0.80	19.5	inauthentic	MEOS	Other-Appraisal	WLEIS	-0.18	-0.22
Austin et al. (2018)	4	226	0.76	19.3	worsen	MEOS	Other-Appraisal	WLEIS	-0.17	-0.2
Austin et al. (2018)	4	226	0.76	19.3	inauthentic	MEOS	Other-Appraisal	WLEIS	-0.16	-0.19
Austin et al. (2018)	3	394	0.80	19.5	worsen	MEOS	Emotion Regulation	WLEIS	-0.18	-0.2
Austin et al. (2018)	3	394	0.80	19.5	inauthentic	MEOS	Emotion Regulation	WLEIS	-0.2	-0.24
Austin et al. (2018)	4	226	0.76	19.3	worsen	MEOS	Emotion Regulation	WLEIS	-0.08	-0.09
Austin et al. (2018)	4	226	0.76	19.3	inauthentic	MEOS	Emotion Regulation	WLEIS	-0.1	-0.12
Austin et al. (2018)	4	226	0.76	19.3	worsen	MEOS	Relationships	TEIQue	-0.35	-0.45
Austin et al. (2018)	4	226	0.76	19.3	inauthentic	MEOS	Relationships	TEIQue	-0.27	-0.36
Austin et al. (2018)	3	394	0.80	19.5	worsen	MEOS	Self-Appraisal	WLEIS	-0.09	-0.1
Austin et al. (2018)	3	394	0.80	19.5	inauthentic	MEOS	Self-Appraisal	WLEIS	-0.12	-0.14
Austin et al. (2018)	4	226	0.76	19.3	worsen	MEOS	Self-Appraisal	WLEIS	0.01	0.01

Austin et al. (2018)	4	226	0.76	19.3	inauthentic	MEOS	Self-Appraisal	WLEIS	-0.13	-0.16
Austin et al. (2018)	4	226	0.76	19.3	worsen	MEOS	Social Competence	TEIQue	0.01	0.01
Austin et al. (2018)	4	226	0.76	19.3	inauthentic	MEOS	Social Competence	TEIQue	-0.03	-0.04
Austin et al. (2018)	3	394	0.80	19.5	worsen	MEOS	Use of emotion	WLEIS	-0.15	-0.17
Austin et al. (2018)	3	394	0.80	19.5	inauthentic	MEOS	Use of emotion	WLEIS	-0.14	-0.16
Austin et al. (2018)	4	226	0.76	19.3	worsen	MEOS	Use of emotion	WLEIS	-0.07	-0.09
Austin et al. (2018)	4	226	0.76	19.3	inauthentic	MEOS	Use of emotion	WLEIS	-0.09	-0.12
Austin et al. (2014)	1	366	0.67	18.63	worsen	MEOS	Agreeableness	Mini-Markers	-0.49	-0.56
Austin et al. (2014)	1	366	0.67	18.63	inauthentic	MEOS	Agreeableness	Mini-Markers	-0.24	-0.29
Austin et al. (2014)	2	387	0.76	22.25	worsen	MEOS	Agreeableness	Mini-Markers	-0.49	-0.57
Austin et al. (2014)	2	387	0.76	22.25	inauthentic	MEOS	Agreeableness	Mini-Markers	-0.24	-0.29
Austin et al. (2014)	1	359	0.67	18.63	worsen	MEOS	Conscientiousness	Mini-Markers	-0.1	-0.12
Austin et al. (2014)	1	359	0.67	18.63	inauthentic	MEOS	Conscientiousness	Mini-Markers	-0.14	-0.17
Austin et al. (2014)	2	389	0.76	22.25	worsen	MEOS	Conscientiousness	Mini-Markers	-0.1	-0.11
Austin et al. (2014)	2	389	0.76	22.25	inauthentic	MEOS	Conscientiousness	Mini-Markers	-0.14	-0.17
Austin et al. (2014)	1	357	0.67	18.63	worsen	MEOS	EI total	TEIQue	-0.13	-0.14
Austin et al. (2014)	1	357	0.67	18.63	inauthentic	MEOS	EI total	TEIQue	-0.22	-0.26
Austin et al. (2014)	2	362	0.76	22.25	worsen	MEOS	EI total	TEIQue	-0.13	-0.15
Austin et al. (2014)	2	362	0.76	22.25	inauthentic	MEOS	EI total	TEIQue	-0.22	-0.25
Austin et al. (2014)	1	366	0.67	18.63	worsen	MEOS	Extraversion	Mini-Markers	0.09	0.1
Austin et al. (2014)	1	366	0.67	18.63	inauthentic	MEOS	Extraversion	Mini-Markers	0.09	0.11
Austin et al. (2014)	2	394	0.76	22.25	worsen	MEOS	Extraversion	Mini-Markers	0.09	0.1
Austin et al. (2014)	2	394	0.76	22.25	inauthentic	MEOS	Extraversion	Mini-Markers	0.09	0.11
Austin et al. (2014)	1	355	0.67	18.63	worsen	MEOS	Grandiose Narcissism	NPI-16	0.37	0.45
Austin et al. (2014)	1	355	0.67	18.63	inauthentic	MEOS	Grandiose Narcissism	NPI-16	0.25	0.32
Austin et al. (2014)	2	382	0.76	22.25	worsen	MEOS	Grandiose Narcissism	NPI-16	0.37	0.45
Austin et al. (2014)	2	382	0.76	22.25	inauthentic	MEOS	Grandiose Narcissism	NPI-16	0.25	0.32
Austin et al. (2014)	1	347	0.67	18.63	worsen	MEOS	Machiavellianism	Mach-IV	0.45	0.53
Austin et al. (2014)	1	347	0.67	18.63	inauthentic	MEOS	Machiavellianism	Mach-IV	0.39	0.48
Austin et al. (2014)	2	378	0.76	22.25	worsen	MEOS	Machiavellianism	Mach-IV	0.45	0.54
Austin et al. (2014)	2	378	0.76	22.25	inauthentic	MEOS	Machiavellianism	Mach-IV	0.39	0.48
Austin et al. (2014)	1	365	0.67	18.63	worsen	MEOS	Neuroticism	Mini-Markers	0.21	0.26
Austin et al. (2014)	1	365	0.67	18.63	inauthentic	MEOS	Neuroticism	Mini-Markers	0.45	0.58
Austin et al. (2014)	2	394	0.76	22.25	worsen	MEOS	Neuroticism	Mini-Markers	0.21	0.25
Austin et al. (2014)	2	394	0.76	22.25	inauthentic	MEOS	Neuroticism	Mini-Markers	0.45	0.55
Austin et al. (2014)	1	362	0.67	18.63	worsen	MEOS	Openness	Mini-Markers	0.04	0.05
Austin et al. (2014)	1	362	0.67	18.63	inauthentic	MEOS	Openness	Mini-Markers	0.06	0.08
Austin et al. (2014)	2	393	0.76	22.25	worsen	MEOS	Openness	Mini-Markers	0.04	0.05
Austin et al. (2014)	2	393	0.76	22.25	inauthentic	MEOS	Openness	Mini-Markers	0.06	0.07
Austin et al. (2014)	1	363	0.67	18.63	worsen	MEOS	Primary Psychopathy	LSRP	0.56	0.63

Austin et al. (2014)	1	363	0.67	18.63	inauthentic	MEOS	Primary Psychopathy	LSRP	0.44	0.52
Austin et al. (2014)	2	375	0.76	22.25	worsen	MEOS	Primary Psychopathy	LSRP	0.56	0.64
Austin et al. (2014)	2	375	0.76	22.25	inauthentic	MEOS	Primary Psychopathy	LSRP	0.44	0.51
Austin et al. (2014)	1	364	0.67	18.63	worsen	MEOS	Secondary Psychopathy	LSRP	0.4	0.49
Austin et al. (2014)	1	364	0.67	18.63	inauthentic	MEOS	Secondary Psychopathy	LSRP	0.34	0.44
Austin et al. (2014)	2	387	0.76	22.25	worsen	MEOS	Secondary Psychopathy	LSRP	0.4	0.51
Austin et al. (2014)	2	387	0.76	22.25	inauthentic	MEOS	Secondary Psychopathy	LSRP	0.34	0.45
Austin et al. (2014)	1	362	0.67	18.63	worsen	MEOS	Vulnerable Narcissism	HSNS	0.4	0.48
Austin et al. (2014)	1	362	0.67	18.63	inauthentic	MEOS	Vulnerable Narcissism	HSNS	0.51	0.65
Austin et al. (2014)	2	386	0.76	22.25	worsen	MEOS	Vulnerable Narcissism	HSNS	0.4	0.49
Austin et al. (2014)	2	386	0.76	22.25	inauthentic	MEOS	Vulnerable Narcissism	HSNS	0.51	0.64
Barnett et al. (2021)	1	1225	0.67	19.93	improve	EROS	Grandiose Narcissism	PNI	0.35	
Barnett et al. (2021)	1	1225	0.67	19.93	improve	EROS	Vulnerable Narcissism	PNI	0.12	
Barnett et al. (2021)	1	1225	0.67	19.93	improve	EROS	Narcissism	PNI	0.21	
Barnett et al. (2021)	1	1225	0.67	19.93	improve	EROS	Grandiose Narcissism	PNI	0.04	0.04
Barnett et al. (2021)	1	1225	0.67	19.93	improve	EROS	Narcissism	PNI	0.21	0.23
Barnett et al. (2021)	1	1225	0.67	19.93	improve	EROS	Vulnerable Narcissism	PNI	0.27	0.29
Da Costa et al. (2014)	1	112	0.64	30.41	improve	EROS	Emotion Management	MSCEIT	-0.2	-0.25
Da Costa et al. (2014)	1	112	0.64	30.41	improve	EROS	Emotion Management	MSCEIT	0.18	
Jankowski et al. (2016)	1	328	0.66	21.1	enhance	MEOS	Machiavellianism	Dirty Dozen	-0.12	
Jankowski et al. (2016)	1	328	0.66	21.1	enhance	MEOS	Psychopathy	Dirty Dozen	-0.01	
Jankowski et al. (2016)	1	328	0.66	21.1	enhance	MEOS	Narcissism	Dirty Dozen	-0.27	
Jankowski et al. (2016)	1	268	0.66	21.1	enhance	MEOS	EI total	TEI	0.48	
Jankowski et al. (2016)	1	268	0.66	21.1	enhance	MEOS	Emotion Perception	TEI	0.36	
Jankowski et al. (2016)	1	268	0.66	21.1	enhance	MEOS	Emotion Understanding	TEI	0.37	
Jankowski et al. (2016)	1	268	0.66	21.1	enhance	MEOS	Emotion Facilitation	TEI	0.45	
Jankowski et al. (2016)	1	268	0.66	21.1	enhance	MEOS	Emotion Management	TEI	0.41	
Jankowski et al. (2016)	1	268	0.66	21.1	worsen	MEOS	EI total	TEI	-0.24	-0.27
Jankowski et al. (2016)	1	268	0.66	21.1	inauthentic	MEOS	EI total	TEI	-0.04	-0.05
Jankowski et al. (2016)	1	268	0.66	21.1	worsen	MEOS	Emotion Facilitation	TEI	-3.23	-4.24
Jankowski et al. (2016)	1	268	0.66	21.1	inauthentic	MEOS	Emotion Facilitation	TEI	-0.08	-0.11
Jankowski et al. (2016)	1	268	0.66	21.1	worsen	MEOS	Emotion Management	TEI	-0.3	-0.4
Jankowski et al. (2016)	1	268	0.66	21.1	inauthentic	MEOS	Emotion Management	TEI	-0.08	-0.11
Jankowski et al. (2016)	1	268	0.66	21.1	worsen	MEOS	Emotion Perception	TEI	-0.19	-0.24
Jankowski et al. (2016)	1	268	0.66	21.1	inauthentic	MEOS	Emotion Perception	TEI	0.01	0.01
Jankowski et al. (2016)	1	268	0.66	21.1	worsen	MEOS	Emotion Understanding	TEI	-0.09	-0.11
Jankowski et al. (2016)	1	268	0.66	21.1	inauthentic	MEOS	Emotion Understanding	TEI	0.04	0.05
Jankowski et al. (2016)	1	328	0.66	21.1	worsen	MEOS	Machiavellianism	Dirty Dozen	0.55	0.64
Jankowski et al. (2016)	1	328	0.66	21.1	inauthentic	MEOS	Machiavellianism	Dirty Dozen	0.44	0.53
Jankowski et al. (2016)	1	328	0.66	21.1	worsen	MEOS	Narcissism	Dirty Dozen	0.39	0.44

Jankowski et al. (2016)	1	328	0.66	21.1	inauthentic	MEOS	Narcissism	Dirty Dozen	0.17	0.2
Jankowski et al. (2016)	1	328	0.66	21.1	worsen	MEOS	Psychopathy	Dirty Dozen	0.36	0.47
Jankowski et al. (2016)	1	328	0.66	21.1	inauthentic	MEOS	Psychopathy	Dirty Dozen	0.46	0.62
Lopez-Perez et al. (2019)	2	517	0.59	35.84	improve	EROS	Extraversion	NEO_FFI	0.42	
Lopez-Perez et al. (2019)	2	517	0.59	35.84	positive engagement	IAISQ	Extraversion	NEO_FFI	0.26	
Lopez-Perez et al. (2019)	2	517	0.59	35.84	acceptance	IAISQ	Extraversion	NEO_FFI	0.32	
Lopez-Perez et al. (2019)	2	517	0.59	35.84	improve	EROS	Agreeableness	NEO_FFI	0.23	
Lopez-Perez et al. (2019)	2	517	0.59	35.84	positive engagement	IAISQ	Agreeableness	NEO_FFI	0.38	
Lopez-Perez et al. (2019)	2	517	0.59	35.84	acceptance	IAISQ	Agreeableness	NEO_FFI	0.12	
MacCann et al. (2020)	1	165	0.72	20.77	enhance	MEOS_SF	Emotionality	HEXACO	-0.07	
MacCann et al. (2020)	1	165	0.72	20.77	enhance	MEOS_SF	Extraversion	HEXACO	0.19	
MacCann et al. (2020)	1	165	0.72	20.77	enhance	MEOS_SF	Agreeableness	HEXACO	0.46	
MacCann et al. (2020)	1	165	0.72	20.77	enhance	MEOS_SF	Conscientiousness	HEXACO	0.16	
MacCann et al. (2020)	1	165	0.72	20.77	enhance	MEOS_SF	Openness	HEXACO	0.18	
MacCann et al. (2020)	1	165	0.72	20.77	enhance	MEOS_SF	Emotion Understanding	STEU	0.32	
MacCann et al. (2020)	1	165	0.72	20.77	enhance	MEOS_SF	Emotion Management	STEM	0.37	
MacCann et al. (2020)	1	165	0.72	20.77	improve	EROS	Emotionality	HEXACO	0.08	
MacCann et al. (2020)	1	165	0.72	20.77	improve	EROS	Extraversion	HEXACO	0.32	
MacCann et al. (2020)	1	165	0.72	20.77	improve	EROS	Agreeableness	HEXACO	0.24	
MacCann et al. (2020)	1	165	0.72	20.77	improve	EROS	Conscientiousness	HEXACO	0.16	
MacCann et al. (2020)	1	165	0.72	20.77	improve	EROS	Openness	HEXACO	0.08	
MacCann et al. (2020)	1	165	0.72	20.77	improve	EROS	Emotion Understanding	STEU	0.04	
MacCann et al. (2020)	1	165	0.72	20.77	improve	EROS	Emotion Management	STEM	0.08	
MacCann et al. (2020)	1	165	0.72	20.77	worsen	MEOS_SF	Affective Empathy	BES	-0.38	-0.52
MacCann et al. (2020)	1	165	0.72	20.77	worsen	EROS	Affective Empathy	BES	-0.15	-0.2
MacCann et al. (2020)	1	165	0.72	20.77	inauthentic	MEOS_SF	Affective Empathy	BES	0.01	0.01
MacCann et al. (2020)	1	165	0.72	20.77	worsen	MEOS_SF	Agreeableness	40adjectives	-0.38	-0.52
MacCann et al. (2020)	1	165	0.72	20.77	worsen	EROS	Agreeableness	40adjectives	-0.14	-0.19
MacCann et al. (2020)	1	165	0.72	20.77	inauthentic	MEOS_SF	Agreeableness	40adjectives	-0.24	-0.32
MacCann et al. (2020)	1	165	0.72	20.77	worsen	MEOS_SF	Cognitive Empathy	BES	-0.31	-0.43
MacCann et al. (2020)	1	165	0.72	20.77	worsen	EROS	Cognitive Empathy	BES	-0.01	-0.01
MacCann et al. (2020)	1	165	0.72	20.77	inauthentic	MEOS_SF	Cognitive Empathy	BES	-0.18	-0.24
MacCann et al. (2020)	1	165	0.72	20.77	worsen	MEOS_SF	Conscientiousness	40adjectives	-0.18	-0.25
MacCann et al. (2020)	1	165	0.72	20.77	worsen	EROS	Conscientiousness	40adjectives	-0.05	-0.07
MacCann et al. (2020)	1	165	0.72	20.77	inauthentic	MEOS_SF	Conscientiousness	40adjectives	-0.28	-0.37
MacCann et al. (2020)	1	165	0.72	20.77	worsen	MEOS_SF	Emotion Management	STEM	-0.29	-0.46
MacCann et al. (2020)	1	165	0.72	20.77	worsen	EROS	Emotion Management	STEM	-0.09	-0.14
MacCann et al. (2020)	1	165	0.72	20.77	inauthentic	MEOS_SF	Emotion Management	STEM	-0.24	-0.37
MacCann et al. (2020)	1	165	0.72	20.77	worsen	MEOS_SF	Emotion Understanding	STEU	-0.28	-0.41
MacCann et al. (2020)	1	165	0.72	20.77	worsen	EROS	Emotion Understanding	STEU	-0.15	-0.22

MacCann et al. (2020)	1	165	0.72	20.77	inauthentic	MEOS_SF	Emotion Understanding	STEU	-0.2	-0.28
MacCann et al. (2020)	1	165	0.72	20.77	worsen	MEOS_SF	Extraversion	40adjectives	0.04	0.06
MacCann et al. (2020)	1	165	0.72	20.77	worsen	EROS	Extraversion	40adjectives	0.14	0.19
MacCann et al. (2020)	1	165	0.72	20.77	inauthentic	MEOS_SF	Extraversion	40adjectives	-0.04	-0.05
MacCann et al. (2020)	1	165	0.72	20.77	worsen	MEOS_SF	Neuroticism	40adjectives	0.21	0.31
MacCann et al. (2020)	1	165	0.72	20.77	worsen	EROS	Neuroticism	40adjectives	0.2	0.3
MacCann et al. (2020)	1	165	0.72	20.77	inauthentic	MEOS_SF	Neuroticism	40adjectives	0.53	0.76
MacCann et al. (2020)	1	165	0.72	20.77	worsen	MEOS_SF	Openness	40adjectives	0.17	0.24
MacCann et al. (2020)	1	165	0.72	20.77	worsen	EROS	Openness	40adjectives	0.13	0.18
MacCann et al. (2020)	1	165	0.72	20.77	inauthentic	MEOS_SF	Openness	40adjectives	0.03	0.03
MacCann et al. (2018)	1	154	0.50	44.05	improve	EROS	Honesty-Humility	HEXACO	0.05	
MacCann et al. (2018)	1	154	0.50	44.05	improve	EROS	Emotionality	HEXACO	0.18	
MacCann et al. (2018)	1	154	0.50	44.05	improve	EROS	Extraversion	HEXACO	0.38	
MacCann et al. (2018)	1	154	0.50	44.05	improve	EROS	Agreeableness	HEXACO	0.08	
MacCann et al. (2018)	1	154	0.50	44.05	improve	EROS	Conscientiousness	HEXACO	0.19	
MacCann et al. (2018)	1	154	0.50	44.05	improve	EROS	Openness	HEXACO	0.28	
MacCann et al. (2018)	1	154	0.50	44.05	improve	EROS	Machiavellianism	Dirty Dozen	-0.08	
MacCann et al. (2018)	1	154	0.50	44.05	improve	EROS	Psychopathy	Dirty Dozen	-0.26	
MacCann et al. (2018)	1	154	0.50	44.05	improve	EROS	Narcissism	Dirty Dozen	0	
MacCann et al. (2018)	1	154	0.50	44.05	enhance	MEOS_SF	Honesty-Humility	HEXACO	0.19	
MacCann et al. (2018)	1	154	0.50	44.05	enhance	MEOS_SF	Emotionality	HEXACO	0.18	
MacCann et al. (2018)	1	154	0.50	44.05	enhance	MEOS_SF	Extraversion	HEXACO	0.26	
MacCann et al. (2018)	1	154	0.50	44.05	enhance	MEOS_SF	Agreeableness	HEXACO	0.15	
MacCann et al. (2018)	1	154	0.50	44.05	enhance	MEOS_SF	Conscientiousness	HEXACO	0.17	
MacCann et al. (2018)	1	154	0.50	44.05	enhance	MEOS_SF	Openness	HEXACO	0.1	
MacCann et al. (2018)	1	154	0.50	44.05	enhance	MEOS_SF	Machiavellianism	Dirty Dozen	-0.14	
MacCann et al. (2018)	1	154	0.50	44.05	enhance	MEOS_SF	Psychopathy	Dirty Dozen	-0.23	
MacCann et al. (2018)	1	154	0.50	44.05	enhance	MEOS_SF	Narcissism	Dirty Dozen	-0.16	
MacCann et al. (2018)	1	154	0.50	44.05	worsen	EROS	Agreeableness	HEXACO	-0.22	-0.26
MacCann et al. (2018)	1	154	0.50	44.05	inauthentic	MEOS_SF	Agreeableness	HEXACO	-0.28	-0.35
MacCann et al. (2018)	1	154	0.50	44.05	worsen	MEOS_SF	Agreeableness	HEXACO	-0.3	-0.36
MacCann et al. (2018)	1	154	0.50	44.05	worsen	EROS	Conscientiousness	HEXACO	-0.16	-0.19
MacCann et al. (2018)	1	154	0.50	44.05	inauthentic	MEOS_SF	Conscientiousness	HEXACO	-0.26	-0.33
MacCann et al. (2018)	1	154	0.50	44.05	worsen	MEOS_SF	Conscientiousness	HEXACO	-0.2	-0.26
MacCann et al. (2018)	1	154	0.50	44.05	worsen	EROS	Emotionality	HEXACO	0.15	0.18
MacCann et al. (2018)	1	154	0.50	44.05	inauthentic	MEOS_SF	Emotionality	HEXACO	0.22	0.27
MacCann et al. (2018)	1	154	0.50	44.05	worsen	MEOS_SF	Emotionality	HEXACO	-0.03	-0.04
MacCann et al. (2018)	1	154	0.50	44.05	worsen	EROS	Extraversion	HEXACO	0.06	0.07
MacCann et al. (2018)	1	154	0.50	44.05	inauthentic	MEOS_SF	Extraversion	HEXACO	-0.05	-0.07
MacCann et al. (2018)	1	154	0.50	44.05	worsen	MEOS_SF	Extraversion	HEXACO	0.03	0.04

MacCann et al. (2018)	1	154	0.50	44.05	worsen	EROS	Honesty-Humility	HEXACO	-0.23	-0.29
MacCann et al. (2018)	1	154	0.50	44.05	inauthentic	MEOS_SF	Honesty-Humility	HEXACO	-0.43	-0.55
MacCann et al. (2018)	1	154	0.50	44.05	worsen	MEOS_SF	Honesty-Humility	HEXACO	-0.39	-0.49
MacCann et al. (2018)	1	154	0.50	44.05	worsen	EROS	Machiavellianism	Dirty Dozen	0.15	0.18
MacCann et al. (2018)	1	154	0.50	44.05	inauthentic	MEOS_SF	Machiavellianism	Dirty Dozen	0.38	0.49
MacCann et al. (2018)	1	154	0.50	44.05	worsen	MEOS_SF	Machiavellianism	Dirty Dozen	0.28	0.35
MacCann et al. (2018)	1	154	0.50	44.05	worsen	EROS	Narcissism	Dirty Dozen	0.2	0.24
MacCann et al. (2018)	1	154	0.50	44.05	inauthentic	MEOS_SF	Narcissism	Dirty Dozen	0.25	0.32
MacCann et al. (2018)	1	154	0.50	44.05	worsen	MEOS_SF	Narcissism	Dirty Dozen	0.19	0.24
MacCann et al. (2018)	1	154	0.50	44.05	worsen	EROS	Openness	HEXACO	0.08	0.1
MacCann et al. (2018)	1	154	0.50	44.05	inauthentic	MEOS_SF	Openness	HEXACO	-0.02	-0.02
MacCann et al. (2018)	1	154	0.50	44.05	worsen	MEOS_SF	Openness	HEXACO	-0.01	-0.01
MacCann et al. (2018)	1	154	0.50	44.05	worsen	EROS	Psychopathy	Dirty Dozen	0.12	0.15
MacCann et al. (2018)	1	154	0.50	44.05	inauthentic	MEOS_SF	Psychopathy	Dirty Dozen	0.28	0.38
MacCann et al. (2018)	1	154	0.50	44.05	worsen	MEOS_SF	Psychopathy	Dirty Dozen	0.32	0.43
Niven et al. (2015)	1	68	0.62	23.66	improve	EROS	Extraversion	Big Five	0.01	
Niven et al. (2015)	1	68	0.62	23.66	improve	EROS	Agreeableness	Big Five	0.3	
Niven et al. (2011)	2	227	0.59	38.5	improve	EROS	Extraversion	Big Five	0.16	
Niven et al. (2011)	2	227	0.59	38.5	improve	EROS	Neuroticism	Big Five	-0.08	
Niven et al. (2011)	2	227	0.59	38.5	improve	EROS	Agreeableness	Big Five	0.1	
Niven et al. (2011)	2	227	0.59	NA	worsen	EROS	Agreeableness	Big Five	-0.26	
Niven et al. (2011)	2	227	0.59	NA	worsen	EROS	Extraversion	Big Five	-0.11	
Niven et al. (2011)	2	227	0.59	NA	worsen	EROS	Neuroticism	Big Five	0.17	
Saklofske et al. (2016)	1	277	0.81	21.01	enhance + divert	MEOS	EI total	TEIQue	0.2	
Saklofske et al. (2016)	1	277	0.81	21.01	enhance + divert	MEOS	Machiavellianism	Dirty Dozen	-0.13	
Saklofske et al. (2016)	1	277	0.81	21.01	enhance + divert	MEOS	Psychopathy	Dirty Dozen	-0.13	
Saklofske et al. (2016)	1	277	0.81	21.01	enhance + divert	MEOS	Narcissism	Dirty Dozen	0.07	
Saklofske et al. (2016)	1	277	0.81	21.01	enhance + divert	MEOS	Extraversion	Mini-IPIP	0.08	
Saklofske et al. (2016)	1	277	0.81	21.01	enhance + divert	MEOS	Neuroticism	Mini-IPIP	0.06	
Saklofske et al. (2016)	1	277	0.81	21.01	enhance + divert	MEOS	Agreeableness	Mini-IPIP	0.24	
Saklofske et al. (2016)	1	277	0.81	21.01	enhance + divert	MEOS	Conscientiousness	Mini-IPIP	0.24	
Saklofske et al. (2016)	1	277	0.81	21.01	enhance + divert	MEOS	Openness	Mini-IPIP	0.02	
Thiagaamudhan (2019)	1	112	0.53	19.5	enhance	MEOS	Extraversion	Mini-IPIP	-0.083	
Thiagaamudhan (2019)	1	112	0.53	19.5	enhance	MEOS	Agreeableness	Mini-IPIP	0.494	
Thiagaamudhan (2019)	1	112	0.53	19.5	enhance	MEOS	Conscientiousness	Mini-IPIP	0.279	
Thiagaamudhan (2019)	1	112	0.53	19.5	enhance	MEOS	Neuroticism	Mini-IPIP	-0.105	
Thiagaamudhan (2019)	1	112	0.53	19.5	enhance	MEOS	Imagination	Mini-IPIP	0.373	
Wang et al. (2021)	1	645	0.31	24.68	prosocial	MEOS_SF	Neuroticism	NEO-FFI	-0.04	
Wang et al. (2021)	1	645	0.31	24.68	prosocial	MEOS_SF	Extraversion	NEO-FFI	0.34	
Wang et al. (2021)	1	645	0.31	24.68	prosocial	MEOS_SF	Openness	NEO-FFI	0.45	

Wang et al. (2021)	1	645	0.31	24.68	prosocial	MEOS_SF	Agreeableness	NEO-FFI	0.51	
Wang et al. (2021)	1	645	0.31	24.68	prosocial	MEOS_SF	Conscientiousness	NEO-FFI	0.54	
Wang et al. (2021)	1	645	0.31	24.68	prosocial	MEOS_SF	Primary Psychopathy	LSRP	-0.3	
Wang et al. (2021)	1	645	0.31	24.68	prosocial	MEOS_SF	Secondary Psychopathy	LSRP	-0.25	
Wang et al. (2021)	1	645	0.31	24.68	prosocial	MEOS_SF	Psychopathy	LSRP	-0.33	
Wang et al. (2021)	1	645	0.31	24.68	prosocial	MEOS_SF	Narcissism	NPI 40	0.15	
Wang et al. (2021)	1	645	0.31	24.68	prosocial	MEOS_SF	EI total	TEIQue-SF	0.49	
Wang et al. (2021)	1	645	0.31	24.68	prosocial	MEOS_SF	Machiavellianism	Mach-IV	-0.39	
Wang et al. (2021)	1	645	0.31	24.68	non-pro-social	MEOS_SF	Agreeableness	NEO-FFI	-0.44	-0.59
Wang et al. (2021)	1	645	0.31	24.68	non-pro-social	MEOS_SF	Conscientiousness	NEO-FFI	-0.25	-0.34
Wang et al. (2021)	1	645	0.31	24.68	non-pro-social	MEOS_SF	EI total	TEIQue-SF	-0.26	-0.32
Wang et al. (2021)	1	645	0.31	24.68	non-pro-social	MEOS_SF	Extraversion	NEO-FFI	-0.12	-0.16
Wang et al. (2021)	1	645	0.31	24.68	non-pro-social	MEOS_SF	Machiavellianism	Mach-IV	0.52	0.72
Wang et al. (2021)	1	645	0.31	24.68	non-pro-social	MEOS_SF	Narcissism	NPI 40	0.28	0.34
Wang et al. (2021)	1	645	0.31	24.68	non-pro-social	MEOS_SF	Neuroticism	NEO-FFI	0.05	0.07
Wang et al. (2021)	1	645	0.31	24.68	non-pro-social	MEOS_SF	Openness	NEO-FFI	-0.14	-0.19
Wang et al. (2021)	1	645	0.31	24.68	non-pro-social	MEOS_SF	Primary Psychopathy	LSRP	0.49	0.62
Wang et al. (2021)	1	645	0.31	24.68	non-pro-social	MEOS_SF	Psychopathy	LSRP	0.56	
Wang et al. (2021)	1	645	0.31	24.68	non-pro-social	MEOS_SF	Secondary Psychopathy	LSRP	0.43	0.58

Note. Corr = correlations. Corrected corr = corrected correlations. EI = emotional intelligence. Austin et al. (2018) used archival data from previously-published papers Austin and O'Donnell, 2013, Austin et al., 2014, and Austin and Vahle, 2016, and is as such not counted as an independent study.

Introduction to Chapter 3

In Chapter 2, I synthesized the current literature on extrinsic emotion regulation to better understand *who* regulate other people's emotions, specifically, examining whether personality domains influence individuals' decision to engage in 'affect improving' and 'affect worsening' extrinsic emotion regulation. To do this, I conducted a meta-analysis (Study 1). I found meta-analytic evidence that individuals higher in pro-social traits (such as Agreeableness and Honesty-Humility) engaged in more extrinsic emotion regulation with the aim to improve others' affect. On the other hand, individuals higher in anti-social traits (such as Psychopathy and Machiavellianism) engaged in more extrinsic emotion regulation with the aim to worsen others' affect.

Next, I examined whether personality domains not only influence individuals' decision to engage in extrinsic regulation, but also whether personality domains influence the use of specific regulation strategies. To do this, I conducted a 7-day daily diary study (Study 2). I found that emotion-related traits (such as Neuroticism and Extraversion) were stronger predictors of individuals' daily use of most extrinsic emotion regulation strategies (pro- and anti-social traits were less predictive). Combined, findings from Paper 1 indicate that *who we are* (in terms of personality domains) influence both the identification of the need to engage in extrinsic emotion regulation, as well as the selection of strategies.

The papers in Chapter 2 provide foundational knowledge but are broad in focus, as they do not examine workplace extrinsic emotion regulation. In the upcoming Chapter 3, I extend my investigation of extrinsic emotion regulation by focussing on co-workers in Australia. Specifically, I aim to investigate *why* employees regulate co-workers' emotions (i.e., 'pro-hedonic goals', regulating to make others feel better, and 'instrumental goals', regulating for a specific instrumental purpose). I also examine what the impact is of extrinsic

emotion regulation on relational work outcomes over time (namely team-member exchange and relationship conflict; Study 3). To strengthen causal claims of the relationship between regulation goals and extrinsic emotion regulation, I supplement Study 3 with an online experimental study (Study 4). Specifically, I manipulated three specific regulation goals ('to make the other feel better', 'to avoid conflict', and 'to get work done') to better understand whether they differentially influence extrinsic emotion regulation strategy selection in co-workers.

Study 3 and 4 (Paper 2) in Chapter 3 were submitted to a special issue on interpersonal emotion regulation in the journal *Emotion*. Adjusting the terminology to suit the topic of this special issue, I use the term 'interpersonal emotion regulation' instead of 'extrinsic emotion regulation' throughout Chapter 3.

Chapter 3. Does It Matter Why We Try?

Does It Matter Why We Try? How Goal-focused Interpersonal Emotion Regulation of Co-workers Influences Relational Dynamics

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Abstract

The quality of our working relationships with peers and colleagues is pivotal to our experience at work. Given its centrality, there is a need to better understand how interpersonal emotion regulation impacts high-quality co-worker relationships. In this paper, we investigate *how* and *why* employees regulate co-workers' emotions (i.e., the process of interpersonal emotion regulation). Study 1 examines the influence of pro-hedonic and instrumental (social, task and impression management) goals on the use of four interpersonal emotion regulation strategies (reappraisal, suppression, distraction, and receptive listening) on relational outcomes in a sample of matched co-workers (N = 553). Results show positive indirect effects of pro-hedonic goals on the use of receptive listening and lower relationship conflict, and negative indirect effects of instrumental goals on the use of suppression, and higher relationship conflict and lower team-member exchange. Study 2 examines the causal direction of the interpersonal emotion regulation goal-strategy selection association, using an online experimental design (N = 398). Results support a causal relationship between pro-hedonic goals and the use of receptive listening, and social instrumental goals and the use of distraction amongst co-workers. These results have important practical implications and advance knowledge on the processes of interpersonal emotion regulation at work.

Keywords: Interpersonal Emotion Regulation, TMX, Relationship Conflict, Goals

1. Introduction

Given how much time people spend at work, the social and relational aspects of work are critical factors that influence the work experience. High quality connections with others at work, such as with co-workers, can be "important sources of happiness and energy for employees" (Fisher, 2010; p. 396). Studies have shown that the quality of interactions and exchange between colleagues, hallmarked by relationship quality (i.e., team-member exchange; TMX; Herman et al., 2008) and low interpersonal conflict (also known as 'affective' or relationship conflict; Friedman et al., 2000, Cahn & Abigail, 2007) between co-workers influence a range of important work outcomes including trust (Costa et al., 2018), task performance, and turnover intention (Shaukat et al., 2017; Rutishauser & Sender, 2019). The overall quality of workplace relationships influences how much employees enjoy their work (Banks et al., 2014; Frone, 2000), and the experience of workplace positive affect and supportive co-worker behavior helps employees thrive in the workplace (Kleine et al., 2019).

High quality relationships with others is a fundamental human need (Baumeister & Leary, 1995; Deci et al., 2017; Ryan & Deci, 2000), however, we know relatively little about how specific interpersonal behaviors, such as attempts at regulating the emotions of others, influence TMX and relationship conflict at work. In this paper, we investigate *why* and *how* co-workers engage in *interpersonal emotion regulation* (Niven, 2017), and whether this influences co-worker's TMX and relationship conflict. In the context of leader-followers, there is evidence that leaders' broad efforts to make followers feel better ('affect improving' interpersonal regulation) is associated with enhanced follower performance (Vasquez et al., 2020), leader-member exchange (LMX; Little et al., 2016; Vasquez et al., 2021), and team innovation (Madrid et al., 2019). Global 'affect improving' interpersonal regulation has also been found to predict friendship and trust in grocery store employees (Niven et al., 2012). In the context of co-worker interactions, it is likely that regulation goals and the selection of

specific interpersonal emotion regulation strategies employees use to regulate co-workers' emotions will influence relational work outcomes, but this has not yet been empirically examined.

This paper contributes to the literature on interpersonal emotion regulation in three important ways. First, building on Côté's (2005) social interaction model of emotion regulation, this paper aims to examine the influence of the use of interpersonal emotion regulation strategies on TMX and relationship conflict in the relational context of co-workers. Despite increasing awareness of the importance of interpersonal emotion regulation at work, studies to date have mostly focused on leader-follower dyads (e.g., Little et al., 2016; Vasquez et al., 2020; Vasquez et al., 2021) rather than peer-co-worker relationships. This limits our understanding of interpersonal emotion regulation at work in lateral working relationships, especially as we know that people are more likely to regulate the emotions of others they work closely with (Tanna & MacCann, 2022). Co-worker relationships impact the broader social/relational fabric and many fundamental processes within organizations, including socialization, adaptation, citizenship behavior, and team performance (Zarankin & Kunkel, 2019). As co-worker interactions drive important organizational outcomes (Herman et al., 2008; Costa et al., 2018), it is crucial to understand the use and effect of interpersonal emotion regulation amongst co-workers.

The second important contribution of this paper is in extending the literature on the specific strategies people use to regulate the emotions of co-workers. To date, studies on interpersonal emotion regulation at work have focused primarily on *whether* people try to regulate others' emotions (e.g., Jitaru & Turliuc, 2022; Liu et al., 2021), and less on *what they do*—that is, the specific strategies they use (e.g., Madrid et al., 2018; Madrid et al., 2019; Vasquez et al., 2020). There are many different ways to regulate someone's emotions at work, such as allowing a co-worker to vent, encouraging them to see the positives of a tricky

situation, or distracting them from a distressing situation. Knowledge on how specific interpersonal emotion regulation strategies influence relationship conflict and TMX will provide important practical guidance and help inform workplace training and management practices to enhance quality workplace relationships.

A third and final contribution of this paper is advancing knowledge on the process of interpersonal regulation, building on Gross' (2015) Extended Process model. Specifically, we examine how regulation *goals* influence the selection stage (individuals' decision on *how* they will regulate others' emotions) of interpersonal emotion regulation strategies reappraisal, suppression, distraction, and receptive listening. Drawing on the previous work of various scholars (e.g., Niven, 2016; Vasquez et al., 2021), we know that interpersonal emotion regulation is goal driven. You might try to regulate your co-worker's emotions so they feel better (a pro-hedonic regulation goal), or so they can get back to work (an instrumental goal to complete a work task; English et al., 2017). As it is also known from research on intrinsic emotion regulation (i.e., regulating our own emotions) that the goals individuals have for regulating their own emotions predict the regulation strategies they use to achieve that goal (e.g., Eldesouky & English, 2019), it is likely that this extends to interpersonal emotion regulation amongst co-workers, but this has to date not been empirically examined.

2. Overview

In Study 1, we collected data from employees and their nominated co-workers across two timepoints to investigate *why* employees regulate the emotions of their nominated co-workers (i.e., pro-hedonic versus instrumental goals) and *how* they regulate (i.e., examining four interpersonal emotion regulation strategies: cognitive reappraisal, receptive listening, distraction and expressive suppression). We also examine the effect of goals and strategies on two relational outcomes as rated by co-workers (relationship conflict and TMX). In Study 2, we experimentally manipulated regulation goals to provide stronger causal evidence of the

relationship between pro-hedonic goals (e.g., ‘to make the other feel better’), and two instrumental goals (social goals, e.g., ‘to avoid conflict’ and instrumental task goals, e.g., ‘to get work done’) and the selection of the same four interpersonal emotion regulation strategies (cognitive reappraisal, receptive listening, distraction and expressive suppression). A better understanding of the specific interpersonal emotion regulation strategies that drive high-quality social relationships at work can inform more targeted recommendations for management and employees in the hope of creating and maintaining a healthy and thriving workforce. The sections below describe the theoretical models and empirical evidence for emotion regulation goals and strategies, and their relationship to TMX and relationship conflict.

2.1. Emotion Regulation

Most research on emotion regulation to date is based on Gross’ influential Modal Model of Emotion, Process Model of Emotion Regulation, and Extended Process Model of Emotion Regulation (Gross, 1998, 2015). The Modal Model suggests that the process of emotion generation occurs in a specific sequence over time (namely, from situation, attention, appraisal, to response). The Process Model describes how emotions can be regulated at five different stages along the Modal Model’s emotion generation sequence, and although it has been mainly applied to the regulation of one’s own emotions, it can also be applied to the regulation of other’s emotions. Specifically, for the regulation of another’s emotions: a) *situation selection processes* occur when someone encourages another person to engage or disengage from a situation that elicits emotion (e.g. avoidance or confrontation processes), b) *situation modification processes* occur when someone directly changes another person’s situation to reduce their emotions (e.g., the direct situation modification process), c) *attentional deployment processes* occur when someone tries to redirect another person’s attention (e.g. distraction or rumination processes); d) *cognitive change processes* occur when

someone attempts to influence another person's thoughts or interpretations about the emotion-eliciting event or situation (e.g. cognitive reappraisal or distancing processes); and d) *response modulation processes* occur when someone tries to influence another person's emotional response after the emotion has been fully formed, often by modulating the behavioral expression of emotion (e.g. expressive suppression or responsive listening processes, which involve encouraging the other person to hide versus express the expression of their emotions). The Extended Process Model (Gross, 2015) builds on the original process model and describes how a regulatory cycle consisting of three main stages affects this sequence. The three stages are: a) identification (identifying the need for emotion regulation), b) selection (selecting which strategies will be used) and c) implementation (implementing the regulation strategies as a specific set of in-context regulation tactics).

As mentioned previously, emotion regulation can be intrinsic (regulating our own emotions) or interpersonal (regulating others' emotions, also referred to as 'extrinsic emotion regulation'; Gross, 1998; 2015). The regulation of both our own and other's emotions happens through goal setting (Nozaki & Mikolajczak, 2020) such that regulatory acts are performed to achieve the regulatory goal. For interpersonal emotion regulation, these regulatory acts involve one individual (the 'actor') using specific strategies to influence the emotions of another (the 'target'). Gross (2015) outlined that the Extended Process Model applies to both intrinsic and interpersonal regulation, but argued that "more work needs to be done—both theoretically and empirically—to figure out how to best apply the EPM [Extended Process Model] to extrinsic [interpersonal] emotion regulation, and to determine similarities and differences between intrinsic and extrinsic [interpersonal] regulation" (p. 133).

2.2. Emotion Regulation Processes

We know that strategy selection has important consequences in intrinsic emotion regulation, as some intrinsic emotion regulation processes are more effective than others. For example, the use of intrinsic perspective taking (a cognitive reappraisal strategy) is effective for reducing negative emotions, whereas intrinsic expressive suppression and rumination are less effective or can even have the opposite effect (Webb et al., 2012). For example, intrinsic reappraisal has been found to be an effective strategy in reducing anxiety, whereas the use of intrinsic suppression has been found to increase anxiety (Hofmann et al., 2009). Although most research to date has been conducted on intrinsic emotion regulation, interpersonal emotion regulation has been gaining rapid research attention over the last decade. Existing research typically uses Niven et al.'s (2011) assessment of interpersonal emotion regulation, which broadly categorizes interpersonal emotion regulation as 'affect improving' (regulating to make the other feel better) or 'affect worsening' (regulating to make the other feel worse) (e.g., Jitaru & Turliuc, 2022; Liu et al., 2021). While this broad categorization is helpful, it may obscure more nuanced investigations of what happens during social interactions that drives interpersonal outcomes, such as TMX and relationship conflict. To address the need to compare different strategies, four specific interpersonal emotion regulation strategies were examined in the current research (for a description and example item, see Table 1). These strategies were chosen because they capture a broad range of processes (i.e., cognitive change, attentional deployment, and response modulation processes) that map onto Gross' (2015) Extended Process Model and are likely to be relevant to interpersonal outcomes at work.

Table 1

Interpersonal emotion regulation strategy definitions and items

Strategy	Definition	Example Item
Reappraisal	Helping the other reframe the situation to encourage a more positive perspective.	*I helped them see events in a new way.*
Receptive Listening	Listening to the other talk or vent; offering a listening ear.	*I listened to them talk about their emotions.*
Distraction	Helping the other avert their attention from the emotion-inducing situation or stimulus.	*I diverted their attention to something else.*
Expressive Suppression	Encouraging the other to hide the expression of their emotions in their face, voice, or body language.	*I asked them to hide how they were feeling.*

Note. Affect improving interpersonal emotion regulation strategies based on MacCann et al. (2018).

2.3. Why Do People Regulate Others' Emotions? Interpersonal Emotion Regulation Goals

Following Gross' (2015) work, emotion regulation is inherently a goal driven process. The decision to regulate one's own and other's emotions is based on a regulation goal, where the goal defines the desired outcome (Nozaki & Mikolajczak, 2020), and regulation will take place until the goal is achieved, or a new goal replaces the old goal (Gross, 2015). Tamir (2009) proposed a framework that distinguishes between 'hedonic' and 'instrumental' goals. Hedonic goals focus on an emotional experience which can be pro-hedonic (to feel better) or contra-hedonic (to feel worse), whereas instrumental goals focus on other concerns that can be accomplished by changing the emotional experience (Tamir, 2009). For example, instrumental goals can be social (to get along with others, to foster interpersonal relationships), target impression management (to keep up appearances) or can be performance or task-focused (to reach a work outcome like completing a task). In the literature on emotion

regulation, a distinction has been made between 'egocentric' and 'pro-social' *motives* on the one hand, and 'hedonic' versus 'instrumental' *goals* on the other (e.g., Tamir & Bigman, 2014). Egocentric and pro-social motives refer to whom the interpersonal regulation will benefit (the one doing the regulation; *egocentric*, or the person whose emotions are being regulated; *pro-social*), whereas hedonic and instrumental goals refer to why the regulation is conducted (for example pro-hedonic; to improve the other's emotion, or instrumental goals; to get work done, avoid conflict, or keep up appearances at work). In this study we will focus on goals (not motives), as "it is the activation of emotion goals, specifically, which defines emotion regulation and sets it apart from other forms of self-regulation (Gross, 2015). ... not higher-order elements (i.e., motives) or lower-order elements in the system." (Tamir et al., 2020, p. 115-116).

Building on Tamir's (2009) framework and Gross' (2015) Extended Process Model, we expect goals to drive interpersonal emotion regulation strategy selection, to help individuals reach their goal. Focusing on the relationship between specific strategies and goals, it has been suggested that suppression is more suited for pursuing instrumental goals, as suppression targets the expression of emotion, and not the experience of emotion (English et al., 2017). Alternatively, strategies that focus on the emotional experience (such as reappraisal, distraction, and receptive listening) may be more suitable for reaching pro-hedonic goals. From research on intrinsic emotion regulation (regulating one's own emotions), we know that reappraisal and distraction are indeed more often used when individuals have pro-hedonic goals (i.e., to make themselves feel better), whereas suppression is more often used for instrumental goals (i.e., getting one's own work done; Eldesouky & English, 2018; English et al., 2017; Wilms et al., 2020). Less research has examined the relationship between regulation goals and strategy selection in interpersonal emotion regulation. We currently know that interpersonal emotion regulation strategies are used for

instrumental goals (Niven et al., 2019). We also know that LMX and discretional performance at work increase when leaders engage in 'affect improving' interpersonal regulation for a *prosocial motive* (e.g., to benefit the organization and its members) but decrease when leaders have *egoistic motives* (e.g., to benefit themselves; Niven et al., 2019). To our current knowledge, hedonic and instrumental goals have not been investigated as predictors of *specific interpersonal emotion regulation strategies* such as interpersonal reappraisal, suppression, receptive listening, and distraction. Examining the influence of regulation goals on interpersonal regulation strategies is an important step in answering Gross' (2015) call on extending findings from intrinsic emotion regulation to interpersonal regulation, and will help us deepen our understanding of the influence of context (goals at work) on the process of interpersonal strategy selection. Additionally, knowledge on why employees regulate co-workers' emotions using different strategies, and how this in turn influences relational outcomes such as TMX and relationship conflict, provides us practical insights into training interventions to achieve more positive relational outcomes. We examine whether pro-hedonic and instrumental goals influence strategy selection amongst close co-workers, guided by the following hypotheses:

Hypothesis 1a. *Pro-hedonic goals will positively predict interpersonal reappraisal.*

Hypothesis 1b. *Pro-hedonic goals will positively predict interpersonal receptive listening.*

Hypothesis 1c. *Pro-hedonic goals will positively predict interpersonal distraction.*

Hypothesis 1d. *Instrumental goals will positively predict interpersonal suppression.*

2.4. Interpersonal Emotion Regulation and TMX

The quality of co-worker relationships is an important relational feature of the workplace (Seers, 1989). Adapted from Leader-Member Exchange (LMX; the quality of the leader-follower relationship; Schriesheim et al., 1999), Team-Member Exchange (TMX)

represents ‘an individual’s perception of the exchange quality of his or her role relationship interactions with other team members’ (Banks et al., 2014, p. 275). The application of TMX is not limited to individuals in the same team: the word ‘team’ rather refers to “an instrument of joint performance” (Banks et al., 2014, p. 275), including two or more individuals who perform task-related functions together, have shared goals, and are embedded in a broader organizational setting. High TMX has been found to increase job satisfaction (Banks et al., 2014) and is related to lower turnover intention (Rutishauser & Sender, 2019). Despite the importance of maintaining high-quality relationships at work, there is a dearth of knowledge about how co-worker interpersonal interactions influence TMX.

Linking emotion regulation and interpersonal outcomes, Côté (2005) developed the social interaction model of emotion regulation and strain. Following this theory, interpersonal encounters consist of a ‘sender’ (the person who ‘sends’ emotion information) and a ‘responder’ (the person who receives the emotion information) in a feedback loop, where: “senders’ emotion regulation and ensuing displays impact receivers' responses, which, in turn, impact senders' subsequent emotion regulation and displays.” (Côté, 2005, p. 514). Following this model, emotion regulation in social interactions can increase or decrease ‘strain’ (adverse psychological or behavioral outcomes like absenteeism, anxiety, and low commitment). The emotion regulation-strain relationship is, amongst other factors, dependent on the regulation strategies the receiver uses (Côté, 2005). That is, some interpersonal emotion regulation strategies may help decrease anxiety, whereas others may increase anxiety – conform findings on intrinsic emotion regulation (Hofmann et al., 2009). Importantly, these social interactions are hypothesized to influence interpersonal outcomes like conflict and TMX, through the behavioral (i.e., emotion regulation) link between emotional expression in interpersonal interactions, and the influence this has on workers’ strain (Côté, 2005). While we do not focus on strain in this paper, Côté’s (2005) social interaction model offers insight into why

interpersonal emotion regulation is expected to influence interpersonal outcomes, and why we expect differences in the effectiveness of interpersonal regulation strategies.

As theorized by the social interaction model (Côté, 2005), interpersonal emotion regulation has been found to influence outcomes in leader-follower contexts (i.e., enhanced performance, Vasquez et al., 2020; team innovation, Madrid et al., 2019; group LMX, Little et al., 2016; Vasquez et al., 2021). Specifically, the use of cognitive change (the broad family of strategies that includes reappraisal) has been found to increase trust (Little et al., 2012) and LMX (Little et al., 2016). Modulating the emotion response of others (the broad family of strategies that includes expressive suppression) had the opposite effect, lowering trust and LMX (Little et al., 2012; 2016). Attentional deployment (the broad family of strategies that includes distraction) correlated positively with LMX (Little et al., 2016). In this study, we aim to extend this investigation to the context co-workers. The context of co-worker relationships is vastly different from leader-follower relationships, so much so that high-quality co-worker relationships have been found to compensate for low-quality relationships with leaders (Gerbasi et al., 2023). As co-worker relationships drive important organizational outcomes (Herman et al., 2008; Costa et al., 2018), and impact the broader social/relational fabric of organizations (Zarankin & Kunkel, 2019), it is crucial to understand the effects that specific interpersonal emotion regulation strategies have on the quality of co-worker relationships. Following Little et al.'s (2012; 2016) work, we examine the influence of interpersonal strategies reappraisal, distraction, and suppression. Additionally, we expect that receptive listening is an important strategy to examine in the co-worker context. Although existing research has not conceptualized it as an interpersonal regulation strategy, 'personal sharing' (defined as the sharing of personal information and details in social settings) has been found to induce higher TMX in team members (Tse & Dasborough, 2008). Based on these findings, we hypothesize that:

Hypothesis 2a. *Interpersonal reappraisal will predict higher TMX in co-workers.*

Hypothesis 2b. *Interpersonal receptive listening will predict higher TMX in co-workers.*

Hypothesis 2c. *Interpersonal distraction will predict higher TMX in co-workers.*

Hypothesis 2d. *Interpersonal suppression will predict lower TMX in co-workers.*

2.5. Effects of Interpersonal Emotion Regulation Strategies on Relationship Conflict

Relationship conflict has been defined as the experience of 'affective' or 'interpersonal' conflict, for example caused by personality clashes (Friedman et al., 2000), and differentiates from other forms of conflict, such as task conflict (conflict relating to disagreement about what work/tasks is done) and process conflict (conflict relating to the disagreements about how work is done; O'Neill et al., 2013). All these conflict types are driven by individuals' responses to perceived differences with the other, and a trade-off between the concern for themselves and the concern for others (De Dreu et al., 2004). Although the experience of conflict at work is inevitable, different types of conflict have differential short- and long-term effects. For example, there is ample evidence showing that task conflict can be beneficial (Bradley et al., 2012; DeChurch & Marks, 2001), whereas relationship conflict is almost always detrimental (De Dreu & Weingart, 2003). Relationship conflict has potential detrimental effects on both organizations and employees, as it lowers employees' job satisfaction (Frone, 2000), increases turnover intention (Shaukat et al., 2017; Rutishauser & Sender, 2019), lowers job performance (Lehmann-Willenbrock et al., 2011) and increases negative mood and somatic complaints (such as headaches) at work (Meier et al., 2013). As we are interested in the interpersonal aspects of co-worker relationships at work in this paper, we focus on relationship conflict.

Following Côté's (2005) social interaction model of emotion regulation and strain, the experience of conflict is argued to be caused by behavioral actions (emotion regulation) during social interactions, which in turn influences employees' strain. This can be positive, in the case of providing social support (which makes the other feel better by showing understanding of their feelings or situations, in turn lowering strain and enhancing job performance; Beehr et al. 2000), but can also be detrimental, when interpersonal emotion regulation: "undermines the worker's need for communal exchange and similarity with others…" (Côté's, 2005, p. 514). Following Côté's (2005) social interaction model, emotion regulation strategies that enhance the experience of similarities and understanding (such as receptive listening) may lower conflict, whereas strategies that lower communal exchange (such as expressive suppression) increase conflict. Although no studies to date have examined the influence of the interpersonal regulation strategy 'receptive listening' on work-related outcomes, higher 'collegial social support' (defined as "listening, showing concern, giving advice", Bartram et al., 2004, p. 298) has been found to relate to lower conflict in nurses (Bartram et al., 2004). Leaders' use of interpersonal reappraisal has been found to moderate the relationship between relationship conflict and team communication (Thiel et al., 2018). The influence of strategies suppression and distraction on relationship conflict has, to the authors current knowledge, only been examined in intrinsic emotion regulation, where the use of distraction to manage one's own emotions during conflict increases cohesion and performance (Griffith et al., 2014), but the use of suppression of one's own emotions lowers conflict resolution (Thomson et al., 2018). In order to provide tailored feedback on employees' *behaviors* that influence relationship conflict, we focus on the relation between interpersonal emotion regulation strategies reappraisal, distraction, receptive listening, and suppression on relationship conflict (rather than strain). Accordingly, it is hypothesized that:

Hypothesis 3a. *Interpersonal reappraisal will predict lower relationship conflict in co-workers.*

Hypothesis 3b. *Interpersonal receptive listening will predict lower relationship conflict in co-workers.*

Hypothesis 3c. *Interpersonal distraction will predict lower relationship conflict in co-workers.*

Hypothesis 3d. *Interpersonal suppression will predict higher relationship conflict in co-workers.*

2.6. Indirect Effect of Goals on Relational Outcomes

As part of our integrative model and building on the Extended Process Model (Gross, 2015) we expect that regulation goals will indirectly influence co-worker relational outcomes (TMX and relationship conflict), through the selection of specific emotion regulation strategies. Specifically, we hypothesize the following:

Hypothesis 4a. *Pro-hedonic goals will indirectly and positively predict TMX, through interpersonal emotion regulation strategies.*

Hypothesis 4b. *Pro-hedonic goals will indirectly and negatively predict relationship conflict, through interpersonal emotion regulation.*

Hypothesis 4c. *Instrumental goals will indirectly and negatively predict TMX, through interpersonal emotion regulation.*

Hypothesis 4d. *Instrumental goals will indirectly and positively relate to relationship conflict, through interpersonal emotion regulation.*

2.7. Current Studies

Figure 1 depicts our integrative model wherein interpersonal emotion regulation goals predict strategy selection, and influence TMX and relationship conflict via interpersonal emotion regulation strategies. Study 1 examined the interpersonal emotion regulation process by contrasting regulation to achieve pro-hedonic goals (to make the other feel better) versus

regulation to achieve instrumental goals (for example, getting work done), and the influence on interpersonal strategy selection (reappraisal, receptive listening, distraction and expressive suppression; see Table 1 for descriptions and example items). Study 1 also examines the influence of the selection of these four strategies on interpersonal outcomes (relationship conflict and TMX) in co-workers. Data was collected from students with a part-time or full-time job and up to three of their co-workers across two time points. Study 2 helps provide greater nuance and support of causal claims in the relationship between regulation goals and interpersonal regulation strategy selection (as regulation goals were grouped in two broad categories in study 1, and measured at the same time as interpersonal regulation strategies), using an online experimental manipulation.

Figure 1

Theoretical Model of Goals, Strategy Selection and Relational Outcomes in Interpersonal Emotion Reaulation

Note. Theoretical model outlining the influence of regulation goals on interpersonal emotion regulation strategy selection and effects on TMX and relationship conflict. 'Actor' refers to the individual doing the regulation, 'target' refers to the person whose emotions are being regulated.

3. Study 1

Study 1 was designed as a dyadic examination of how and why employees regulate their co-workers' emotions, and the effect interpersonal emotion regulation has on interpersonal dynamics at work. Using a sample of participants in part- and full-time jobs, we

obtained data from both the actor (the person doing the regulation) and the target (their nominated co-workers who were the target of the regulation). Up to three targets were nominated by each actor, with actors rating the regulation goals they had and the strategies they used on each target co-worker that they nominated. The targets provided their ratings of TMX and relationship conflict with the actor (see Figure 1). The design allowed us to collect dyadic matched data, where: a) the actor reports interpersonal emotion regulation (goals and strategy selection), and the target reports the outcomes of regulation (TMX and conflict); and b) the use of interpersonal emotion regulation strategies were reported separately for each co-worker target.

3.1. Method

3.1.1. Participants

There were 208 participants (75.5% female; M_{age} = 22, *SD* = 6.77) (recruited from an undergraduate psychology sample who received course credit for participation). Participants had the option to nominate up to three co-workers, and data was collected from a total of 345 nominated co-workers (54.2% female; M_{age} = 24.47, *SD* = 8.42). Inclusion criteria included (a) being over 18 years of age; (b) being fluent in English, (c) having a part-time or full-time job and (d) being willing to provide the email address of up to three co-workers. The majority of participants worked in education and training (29.3%), business management and administration (21.6%), hospitality and tourism (16.8%) and marketing (13.6%). To get a better understanding of the relationship between participants and their nominated co-workers, participants were asked to rate how much and for how long they have worked with their co-workers. Participants worked on average 12.85 hours (*SD* = 12.15) a week with their nominated co-workers, and had been working on average 9 months (*SD* = 13.47) with their nominated co-workers. Participants were also asked how to rate interaction attributes ('*I like my colleague*', '*I expect a pleasant interaction with my colleague*' and '*I expect a succesful*

interaction with my colleague' from from 1 (not at all) to 7 (very much)). The mean score was *M*(*SD*) = 6.07 (1.08), indicating that on average, participants liked their nominated co-workers, and expected a pleasant and succesful interaction with them.

3.1.2. Procedure

Once consent was provided, participants received a link to an online survey. Participants' survey included a screening questionnaire (to ensure inclusion criteria are met) and demographics (e.g., gender, age). Participants provided the name and contact information of up to three co-workers and reported interpersonal emotion regulation strategy use and emotion regulation goals for each of their targeted nominated co-workers. Co-workers' names were automatically specified in the item stems to ensure the participant would report regulation goals and regulation use for the correct co-worker. Co-workers were contacted via Qualtrics' automated email service and received a link to an online consent form and survey. Co-workers' surveys included a screening questionnaire, demographics (gender, age) and established measures of the two key relational outcomes, relationship conflict and TMX. Similar to the participants' survey, names were automatically specified in the item stems for co-workers (e.g., "*[name of participant] understands my problems and needs"*). The study was approved by the last author's Human Research Ethics Committee (project ID 2020/113). Data and analyses files are available on the trusted online repository of Open Science Framework (OSF): https://osf.io/p4d82/?view_only=f14fb3ea3fda4e378a7c2b722227b8e4 (anonymized for review).

3.1.3. Measures

Emotion Regulation Goals (rated by participants for each of their nominated co-workers). Two subscales were used to assess emotion regulation goals (English et al., 2017). Participants were asked to rate how much they agreed with five statements on a five-point Likert scale, from 1 (*strongly disagree*) to 5 (*strongly agree*). Pro-hedonic goals were

measured with two items ("I regulate my workmate's emotions to make them feel better/happy", "I regulate workmate's emotions to change their mood"), and instrumental goals were measured using three items ("I regulate my workmate's emotions to avoid conflict", "I regulate my workmate's emotions to keep up appearances", "I regulate my workmate's emotions to get work done").

Interpersonal emotion regulation (rated by participants for each of their nominated co-workers). Four subscales of the Regulating Others' Emotions Scale (ROES; MacCann et al., 2018; Xiao et al., 2022) were used to assess four strategies (interpersonal reappraisal, suppression, receptive listening and distraction), and were rated by participants about how they regulate each of their nominated co-workers. The interpersonal emotion regulation strategies were measured using four items each, e.g. *"I discussed different ways of interpreting the situation"* (1 *strongly disagree* to 6 *strongly agree*).

Relationship Conflict (rated by co-workers). Relationship conflict was measured using the intragroup conflict measure by Jehn and Mannix (2001), and adapted to reflect conflict between co-workers. Co-workers were asked to think of their relationship with the participant who nominated them, and report to what extent they agreed with five statements, e.g., "*there is jealousy or rivalry between us"* (1 *completely disagree* to 7 *completely agree*).

Team-Member Exchange (rated by co-workers). TMX (Seers et al., 1995) was measured by asking each nominated co-worker to rate how much they agreed with 10 statements about the participant/actor, e.g., "*[name of participant] understands my problems and needs"* (1 *strongly disagree* to 5 *strongly agree*).

Control variables: Age and Gender (of both participants and co-workers). We controlled for age (Niven, 2022) and gender (Nozaki & Mikolajczak, 2022) as both have been found to influence interpersonal emotion regulation strategy use.

3.1.4. Power Analysis

A power analysis indicated that a necessary sample size of 167 was needed to test for small-to-moderate incremental prediction at 80% power (Faul et al., 2009), such that the study is adequately powered to detect an effect.

3.1.5. Analysis

To take into account the multilevel nature of our data (i.e., targets nested in actors), we conducted multilevel modeling in Mplus 8 (Muthén & Muthén, 2017). We controlled for the nesting of the data (i.e., co-workers nested within participants; Level 2 $N = 345$; Level 1 $N = 204$; average cluster size = 1.94). Our analysis was run using analysis type 'two-level' with the MLR estimator. At Level 1, we included participants' report of emotion regulation goals and interpersonal emotion regulation strategies, as well as co-workers' report of outcome variables relationship conflict and TMX. Co-workers' age and gender were included as control variables. At Level 2, we included participants' gender and age. All exogenous variables were grand-mean centered.

Prior to running the regression models, confirmatory factor analyses were conducted to examine the factor structure of the variables. An 8-factor model (not including gender and age of actor and target) fit the data reasonably well: $\chi^2 (566) = 1285.43$, CFI = .88, RMSEA = .06, SRMR = .07 (following standards of e.g., Beauducel & Wittmann, 2005). A one-factor model was a significantly worse fit: $\chi^2 (594) = 4284.96$, CFI = .38, RMSEA = .12, SRMR = .15. A 4-factor model, with the different variables but not subscales (e.g. 'interpersonal regulation' factor instead of four interpersonal regulation strategies) was tested: $\chi^2 (558) = 3012.74$, CFI = .59, RMSEA = .10, SRMR = .13, as was a 5-factor model grouping interpersonal regulation strategies together but not goals: $\chi^2 (584) = 2770.81$, CFI = .63, RMSEA = .10, SMR = .12. Finally, a 7-factor model, where goals were combined into one

factor, was tested: χ^2 (573) = 1557.66, CFI = .83, RMSEA = .07, SRMR = .09. Accordingly, we proceeded with the 8-factor model with the best model fit.

3.2. Results

Means and standard deviations of the study variables, as well as reliability, intraclass coefficients and correlations at Level 1 and Level 2 are provided in Table 2. All variables showed adequate levels of reliability, with Cronbach's alpha estimates ranging from .71 to .91. The intra-class coefficient (ICC (1,k)) for the four exogenous variables was above 0.30 in all cases, indicating that at least 30% of the variation can be attributed to participant-level effects. With co-workers nested under participants, clustering by participants needs to be taken into account during estimation to avoid Type I errors (e.g., Musca et al., 2011; Muthén & Satorra, 1995).

3.2.1. Hypothesis Testing

Results are displayed in Table 3 and 4, and depicted visually in Figure 2.

Hypothesis 1a-d: Goals predict Interpersonal Emotion Regulation

Pro-hedonic goals significantly and positively predicted the use of interpersonal reappraisal (γ = .28, p = .00), receptive listening (γ = .49, p < .001), and distraction (γ = .28, p = .01), supporting Hypothesis 1a-c. Pro-hedonic goals also significantly and negatively predicted the use of interpersonal suppression (γ = -.23, p = .02), which was not hypothesized. Instrumental goals significantly and positively predicted the use of interpersonal suppression (γ = .48, p < .001), supporting Hypothesis 1d. Contrary to our prediction, instrumental goals also significantly and negatively predicted the use of receptive listening (γ = -.31, p < .001).

11.1.2. Hypothesis 2a-d: Interpersonal Emotion Regulation predicts TMX

Interpersonal reappraisal (γ = .10, p = .21), distraction (γ = .15, p = .05), and receptive listening (γ = .15, p = .07) did not significantly predict co-worker rated TMX, contrary to

Hypotheses 2a-c. Interpersonal expressive suppression did significantly and negatively predict co-workers' TMX (γ = -0.26, p = .001), supporting Hypothesis 2d.

Hypothesis 3a-d: Interpersonal Emotion Regulation predicts Relationship Conflict

Neither reappraisal (γ = -.02, p = .78) nor distraction (γ = -.06, p = .54) significantly predicted relationship conflict, contrary to Hypotheses 3a and 3c. Receptive listening significantly and negatively predicted relationship conflict (γ = -.26, p = .01), supporting Hypothesis 3b. Expressive suppression significantly and positively predicted co-workers' reports of relationship conflict (γ = .21, p = .01), supporting Hypothesis 3d.

Table 2

Means, Standard Deviations and Correlations of Study 1 Variables

Variables	*M(SD)*	α	ICC	1	2	3	4	5	6	7	8
1. Reappraisal (Actor)	4.42 (0.81)	.85	.58	-	.18*	.36**	.34**	.19**	.08	.09**	-.11*
2. Suppression (Actor)	3.18 (1.32)	.87	.84	.18**	-	-.12	.51**	.03	.51**	-.06	.41**
3. Receptive Listening (Actor)	4.82 (0.86)	.91	.74	.59**	-.10	-	.22**	.22**	-.12**	.13**	-.26**
4. Distraction (Actor)	4.22 (0.85)	.81	.71	.56**	.43**	.35**	-	.25**	.24**	.10**	.00
5. Pro-Hedonic Goals (Actor)	3.82 (0.85)	.71	.41	.31**	.01	.35**	.36**	-	.12*	.09**	-.11*
6. Instrumental Goals (Actor)	2.98 (0.97)	.76	.56	.11*	.40**	-.12*	.27**	.26**	-	-.02	.20**
7. TMX (Target)	3.91 (0.55)	.83	.31	.24**	-.13*	.30**	.25**	.21**	-.04	-	-.12**
8. Relationship Conflict (Target)	2.36 (1.07)	.77	.29	-.16**	.29**	-.31**	-.05	-.16**	.17**	-.24**	-

Note. Level 1, below diagonal $N = 275 – 345$; Level 2, above diagonal, *Nclusters* = 204, cluster size = 1.69. Actor = actor-rated; Target = target-rated; ICC = intraclass coefficient.

* $p < .05$; ** $p < .01$.

Table 3

Path Coefficients of the Full Model from Multi-Level Path Analyses

	Actor-Rated Reappraisal		Expressive Suppression		Receptive listening		Distraction		Target-Rated TMX		Relationship Conflict	
Variables	*b* (SE)	*95% C.I*	*b* (SE)	*95% C.I*	*b* (SE)	*95% C.I*	*b* (SE)	*95% C.I*	*b* (SE)	*95% C.I*	*b* (SE)	*95% C.I*
Level 1												
Age (T)	-.09 (.06)	[-.20 ; .02]	-.05 (.11)	[-.27 ; .16]	-.10 (.08)	[-.26 ; .06]	-.08 (.06)	[-.20 ; .04]	-		-	
Gender (T)	-.08 (.08)	[-.25 ; .09]	-.07 (.09)	[-.24 ; .10]	-.04 (.06)	[-.16 ; .08]	-.11 (.08)	[-.26 ; .05]	-		-	
Pro-Hedonic Goals (A)	.28 (.10)**	[.09 ; .48]	-.23 (.10)*	[-.43; -.03]	.49 (.08)**	[.35 ; .64]	.28 (.10)**	[.09 ; .48]	-		-	
Instrumental Goals (A)	.02 (.11)	[-.19 ; .23]	.48 (.09)**	[.30 ; .65]	-.31 (.08)**	[-.47; -.16]	.07 (.10)	[-.12 ; .26]	-		-	
Reappraisal (A)	-	-	-	-	-	-	-	-	.10 (.08)	[-.06 ; .27]	-.02 (.07)	[-.15 ; .12]
Expressive Suppression (A)	-	-	-	-	-	-	-	-	-.26 (.07)**	[-.40; -.11]	.21 (.09)*	[.04 ; .37]
Receptive Listening (A)	-	-	-	-	-	-	-	-	.15 (.09)	[-.02 ; .32]	-.26 (.09)**	[-.44; -.07]
Distraction (A)	-	-	-	-	-	-	-	-	.15 (.08)	[-.00 ; .30]	-.06 (.09)	[-.23 ; .12]
Level 2												
Age (A)	.28 (.11)*	[.06 ; .49]	-.26 (.08)**	[-.40; -.11]	.25 (.09)**	[.07 ; .43]	-.28 (.15)	[-.60 ; .02]	-	-	-	-
Gender (A)	.02 (.10)	[-.17 ; .21]	-.14 (.08)	[-.29 ; .02]	.10 (.09)	[-.08 ; .29]	-.03 (.10)	[-.22 ; .16]	-	-	-	-
R^2 Level 1	.11 (.06)	-	.21 (.08)**	-	.21 (.08)**	-	.13 (.07)	-	.15 (.05)**	-	.13 (.05)**	-
R^2 Level 2	.08 (.06)	-	.08 (.05)	-	.07 (.05)	-	.08 (.09)	-	-	-	-	-

Note. $N = 277$ (cluster size = 1.94). Changes in sample size and cluster size reflects listwise deletion for multi-level path analysis; EER = interpersonal emotion regulation. T = Target-rated. A = Actor Rated. Estimates are standardized. * $p < .05$; ** $p < .01$.

Table 4.

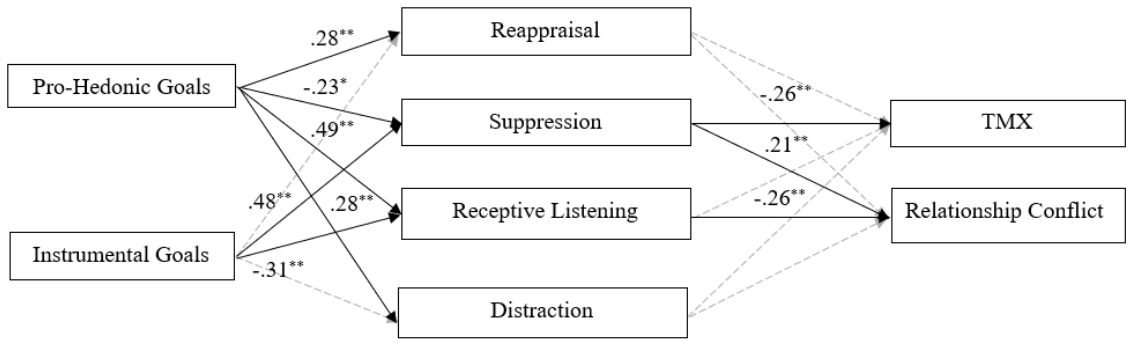
Indirect Effects of Regulation Goals on TMX and Relationship Conflict

	TMX		Relationship Conflict	
Indirect Effects	*Est. (SE)*	*95% C.I.*	*Est. (SE)*	*95% C.I.*
Pro-Hedonic Goals – Reappraisal	.03 (.03)	[-.02 ; .08]	-.01 (.02)	[-.04 ; .03]
Pro-Hedonic Goals – Expressive Suppression	.06 (.03)	[-.01 ; .12]	-.05 (.03)	[-.11 ; .02]
Pro-Hedonic Goals – Receptive Listening	.08 (.05)	[-.01 ; .16]	-.13 (.05)*	[-.23 ; -.02]
Pro-Hedonic Goals – Distraction	.04 (.03)	[-.01 ; .10]	-.02 (.03)	[-.07 ; .04]
Pro-Hedonic Goals: Total Indirect	.21 (.05)**	[.10 ; .31]	-.20 (.05)**	[-.30 ; -.09]
Instrumental Goals – Reappraisal	.00 (.01)	[-.02 ; .03]	.00 (.00)	[-.01 ; .00]
Instrumental Goals – Expressive Suppression	-.12 (.04)**	[-.20 ; -.05]	.09 (.05)*	[.01 ; .20]
Instrumental Goals – Receptive Listening	-.05 (.03)	[-.10 ; .01]	.08 (.04)	[-.00 ; .16]
Instrumental Goals – Distraction	.01 (.02)	[-.02 ; .04]	-.00 (.01)	[-.02 ; .01]
Instrumental Goals: Total Indirect	-.16 (.04)**	[-.24 ; -.07]	.17 (.05)**	[.07 ; .28]

Note. Parameters are standardized; Est. = estimate; SE = standard error; C.I. = confidence intervals. * $p < .05$; ** $p < .01$.

Figure 2

Multi-level Path Model



Note. Multi-level path model of regulation goals, interpersonal emotion regulation strategies and outcome variables TMX and relationship conflict. Paths with significant estimates are presented in black, paths with non-significant estimates are dashed. Estimates are standardized. * $p < .05$; ** $p < .01$.

Hypothesis 4a-d: Goals indirectly predict TMX and Relationship Conflict through Interpersonal Emotion Regulation

For both TMX and relationship conflict, total indirect effects of goals through interpersonal emotion regulation strategy selection were significant for both pro-hedonic goals and instrumental goals (see Table 4), suggesting that a person's goals for regulating someone else's emotions affect workplace outcomes partly through the interpersonal emotion regulatory strategies people use to achieve these goals.

For the pro-hedonic goals—TMX association, none of the four indirect pathways through each of the interpersonal emotion regulation strategies was significant. As such, Hypothesis 4a was not supported. For the pro-hedonic goals—relationship conflict association, there was a significant negative indirect effect through receptive listening (γ = -.13, p = .02), supporting Hypothesis 4b, but not through reappraisal, distraction or expressive suppression. For the instrumental goals—TMX association, there was a significantly negative indirect effect through expressive suppression (γ = -.12, p = .00), supporting Hypothesis 4c, but not through distraction, reappraisal or receptive listening. Finally, for the instrumental goals/relationship conflict association, there was a significant positive indirect effect through suppression (γ = .10, p = .04), supporting Hypothesis 4d.

3.3. Discussion

Research on interpersonal emotion regulation to date has shown positive effects of interpersonal regulation on various valued work outcomes such as job performance, trust and leader-member exchange (e.g., Vasquez et al., 2020; Vasquez et al., 2021; Thiel et al., 2018). Even though we know that individuals are more likely to regulate the emotions of people they are close to (Tanna & MacCann, 2022) there is a lack of knowledge on interpersonal regulation

strategies in the context of co-worker relationships at work. This is an important knowledge gap as co-worker relationships are different (in regard to for example power dynamics) to other types of relationships that have been more extensively studies (e.g., leader-followers). Workplace relationships between co-workers at work are more pervasive and are fundamental to the social fabric of organizations (Zarankin & Kunkel, 2019). Study 1 was conducted to examine whether regulation goals predict interpersonal emotion regulation strategies reappraisal, receptive listening, distraction and suppression (i.e., the strategy selection stage; Gross, 2015), and whether the use of these strategies influenced TMX and relationship conflict amongst co-workers.

Our results highlight the influence of regulation goals on interpersonal strategy selection. Specifically, pro-hedonic goals significantly and positively related to the selection of reappraisal, receptive listening and distraction, and significantly and negatively related to the selection of expressive suppression. Instrumental goals (grouping social, task and impression management goals) significantly and positively related to expressive suppression, and significantly and negatively related to receptive listening.

Both TMX and relationship conflict are significantly influenced by interpersonal emotion regulation strategies. Response modulation strategy receptive listening negatively and significantly related to relationship conflict. It is not surprising that the act of offering a listening ear is related to lower conflict. Active listening is a crucial organizational skill, frequently taught in management education (Spataro & Bloch, 2018). Listening at work has been described as a ‘dyadic phenomenon’, leading to the experience of togetherness, facilitating the creative thought process, and strengthening the work relationship (Kluger & Itzchakov, 2022). Interpersonal expressive suppression positively and significantly related to relationship conflict, and to lower TMX. These findings are consistent with results on the negative effects of leader suppression on

follower trust and LMX (Little et al., 2012; 2016). No effects were found for antecedent-focused strategies reappraisal and distraction. These results highlight the importance of *response modulation strategies* for relational dynamics.

The causal direction of the relationship between instrumental goals and the selection of interpersonal emotion regulation strategies could go either way. Suppression could for example be an ineffective regulation strategy – where co-workers are still experiencing negative emotions (e.g., they are still stressed, angry, or frustrated) after the regulation, which leads to higher relationship conflict. Alternatively, in work relationships characterized by higher levels of relationship conflict, co-workers may have more reasons to suppress the expression of the other's emotions during an argument (e.g., 'lower your voice', 'stop yelling at me', 'don't look at me like that!'). To provide stronger casual evidence of the relationship between goals and interpersonal emotion regulation strategies, we conducted Study 2, which will be discussed in more detail below.

4. Study 2

The associations in Study 1 were consistent with the Extended Process Model (Gross, 2015), where emotion regulation goals determine the strategies people choose to achieve their goals. Additionally, consistent with Côté's (2005) social interaction model of emotion regulation, the target's behavior (interpersonal regulation) differentially influenced the target/regulator social dynamics (i.e., the outcomes of TMX and relationship conflict). While Gross' Extended Process Model (2015) assumes that goals influence strategy selection (which influences outcomes), associations between regulation goals and strategies could occur due to: a) the theoretical causal chain (i.e., from regulation goals to regulation strategies), or b) reverse causality (from regulation strategies to regulation goals; e.g., perhaps people recall their

regulatory behaviors and then infer the goals that must have caused such behaviors), or c) one or more omitted variables that cause both regulation goals and regulation strategies (e.g., perhaps closer relationships and a lower degree of workplace stress cause both pro-hedonic goal formation *and* the use of receptive listening). The interpretation of a statistical association as representing cause and effect is referred to as the endogeneity problem (e.g., Antonakis et al., 2014) and results in biased estimates of the effects.

To address the endogeneity problem, Study 2 was designed to test the causal direction of the goal—strategy associations by experimentally manipulating the assignment of participants to different regulation goal conditions. Study 2 also extends Study 1 by considering a more differentiated categorization of instrumental goals. Where Study 1 compared pro-hedonic versus instrumental goals, in Study 2, we further unpack instrumental goals by comparing pro-hedonic goals ('to make the other feel better'), instrumental task goals ('to get work done') and instrumental social goals ('to avoid conflict'). To replicate the associations found in Study 1, we pre-registered the following hypothesis (as well as sample size, analysis plan, and exclusion criteria):

> Hypothesis 5. *Compared to participants in the social and instrumental task group, participants in the pro-hedonic group will use more reappraisal, distraction and receptive listening, and less suppression.*

Differences in interpersonal emotion regulation strategies between the two instrumental goal groups (social goals versus task goals) will be examined in an exploratory fashion, without directional hypotheses (as pre-registered). The pre-registration, as well as data and analysis files, are available on OSF: https://osf.io/p4d82/?view_only=f14fb3ea3fda4e378a7c2b722227b8e4 (anonymized for review).

4.1. Method

4.1.1. Participants

There were 398 participants who participated in this study (49.5% female; M_{age} = 40, *SD* = 10.90). Inclusion criteria were: (a) being over the age of 18 and under the age of 98; (b) having a full-time or part-time job; (c) having employee interactions at their job, and (d) being proficient in the English language. All participants resided in the United Kingdom. A total of *n* = 133 participants were randomly allocated to the instrumental social goal group, *n* = 133 were assigned to the instrumental task goal group, and *n* = 132 were assigned to the pro-hedonic goal group.

4.1.2. Procedure

Participants were recruited from online crowd-source site Prolific (https://www.prolific.co/) and redirected to the survey platform Qualtrics where they all accessed the same participant information statement, consent form and demographic questions. Inclusion criteria were applied through Prolific's pre-screening function. Following demographic questions, participants were randomly allocated to one of the three regulation goal groups using the Qualtrics randomizer function. Participants then filled out a short (20-item) survey on interpersonal emotion regulation strategy use that differed across conditions (as described below). Participants received £1.35 on average (£9.00 an hour) for completing the survey.

4.1.3. Measures

***Emotion Regulation*.** The same measure of interpersonal emotion regulation (ROES; MacCann et al., 2018; Xiao et al., 2022) used in Study 1 was used to measure interpersonal emotion regulation strategies (reappraisal, receptive listening, distraction and expressive suppression) across the three regulation goal conditions in Study 2. Cronbach's alpha's showed

acceptable internal consistency (reappraisal α = .82; receptive listening α = .86; expressive suppression α = .84; distraction α = .77).

Experimental Manipulation of Goals. There were two differences in the way that the emotion regulation assessment was administered across the three different conditions. First, the instructions for answering the items were modified to refer specifically to the goal. These instructions read: "*This survey is about the different things you do at work **when your goal** is [to make your co-worker feel better] [to avoid conflict with your co-worker] [to get work done with your co-worker]. While answering these questions, please think about one co-worker you get along with well*." Second, the goal statement was also included as a 'tag' at the beginning of every item to ensure that the experimental condition was salient even for participants who did not read the instructions. For example, the item 'I discuss different ways of interpreting the situation' would read 'To make my co-worker feel better, I discuss different ways of interpreting the situation', 'To avoid conflict with my co-worker, I discuss different ways of interpreting the situation' or 'To get work done with my co-worker, I discuss different ways of interpreting the situation' across the pro-hedonic, social, and task goal conditions respectively.

Experimental Manipulation Check. One manipulation check item was included at the end of the survey: "*When you answered the previous questions, how much were you thinking about the following goals from 0 (not at all) to 100 (the entire time)*" after which the three regulation goals were listed (i.e., 'To make my co-worker feel better', 'To avoid conflict with my co-worker', and 'To get work done with my co-worker'). Participants responded using a slider function (0 – 100).

4.1.4. Power Analysis

A G-power analysis showed that a participant sample size of 318 was required to detect a small to medium effect size (f = .175) in a one-way ANOVA with 80% power. To allow for up to 20% of participants to be excluded, data was collected from 398 participants.

4.1.5. Exclusion Criteria and Manipulation Check

Pre-registered exclusion criteria were: a) failing the 1 attention-check item ("*Please select disagree for this item to show you are paying attention*"; $n = 1$), b) answering too quickly (a response time less than 1/3rd of the median) ($n = 0$), or c) giving a higher rating on a non-assigned goal condition in the manipulation check ($n = 182$; i.e., 46% of the sample). Many participants in the two instrumental goal conditions reported that their primary motivation was a pro-hedonic goal (to make their co-worker feel betters). In total, there were only 16 participants who reported '0' on the manipulation check items of the goals they were not assigned to, meaning they only considered their assigned goal when answering the survey questions, but not the other goals. All other participants ($n = 382$) reported to have also considered one or two of the other goals at least part of the time, with overall sample mean scores of *M(SD)* = 76.82 (24.25) for 'make my co-worker feel better', *M(SD)* = 60.10 (31.24) for 'get work done with my co-worker' and *M(SD)* = 55.82 (33.45) for 'trying to avoid conflict with my co-worker'. This is an interesting finding, which will be discussed in the discussion section.

Following exclusion of participants who gave a higher rating on a non-assigned goal condition, a sample of 216 participants remained ($n = 53$ for social goals, $n = 57$ for task goals, and $n = 106$ for pro-hedonic goals). A *post-hoc* sensitivity analysis using the smallest group size showed that this sample (post-exclusions) provided 80% power to detect a moderate effect size ($f = .25$, equivalent to $d = 0.50$ or $r = 0.24$) in a one-way ANOVA with three groups.

4.1.6. Analysis

To test the hypothesized differences in the selection of reappraisal, receptive listening, distraction and suppression based on the three regulation goals, a one-way between-subjects ANOVA with contrast coding compared the difference between the following conditions: 1) pro-hedonic versus instrumental goals (contrast coded as 1, -.5, -.5 for pro-hedonic, social and task goals; Contrast 1), and 2) instrumental social versus instrumental task goals (contrast coded as 0, -1, 1 pro-hedonic, social and task goals; Contrast 2).

Due to the very large number of participants reporting multiple regulation goals (besides their assigned regulation goal-group) however, we also conducted one-way between-subjects ANOVAs on the total sample (N = 398). These results are available in the supplementary material.

4.2. Results

4.2.1. Hypothesis Testing

Hypothesis 5 (Contrast 1): Pro-hedonic group versus Instrumental Groups

Participants in the pro-hedonic condition selected significantly more receptive listening compared to instrumental conditions (with a large effect size of g = 0.74), as hypothesized. Participants in the pro-hedonic condition reported less suppression (as hypothesized), but this effect was non-significant. A small negative effect of suppression was found in the ANOVA when the total sample was included (g = -0.17 to -0.22; see supplementary material Table 7). There were no significant differences in distraction or reappraisal, contrary to our hypothesis. Therefore Hypothesis 5 received only partial support.

Exploratory analysis (Contrast 2): Instrumental Social versus Instrumental Task Goals

Participants in the instrumental social goal condition reported significantly lower distraction compared to the instrumental task goal condition, with a small to moderate effect size. There were no significant differences for reappraisal, receptive listening and distraction between the two instrumental conditions.

Table 6

One-Way Between-Subjects Analyses of Variance with Contrast Coding Comparing 'Feel Better' to 'Avoid Conflict' and 'Get Work Done' (Contrast 1) and 'Avoid Conflict' to 'Get Work Done'(Contrast 2) (N = 216)

Outcome Variable	*M* (*SD*)				95% CI		
	Pro-hedonic Goals (*n* = 106)	Instrumental Goals (*n* = 110)	***Ψ***	*t*	*LL*	*UL*	Hedges' *G*
ψ1: Reappraisal	4.43 (0.79)	4.42 (0.58)	.02	0.19	-.17	.20	.03
ψ1: Receptive Listening	5.29 (0.59)	4.82 (0.68)	.48	5.49***	.31	.65	.74
ψ1: Distraction	3.83 (0.85)	3.71 (0.83)	.12	1.05	-.10	.34	.14
ψ1: Suppression	1.78 (0.81)	1.93 (0.85)	-.14	-1.27	-.37	.08	-.17
	Social Goal (*n* = 53)	Task Goal (*n* = 57)	***Ψ***	*t*	LL	*UL*	Hedges' *G*
ψ2: Reappraisal	4.36 (0.58)	4.46 (0.57)	-.10	-0.92	-.12	.32	-.15
ψ2: Receptive Listening	4.85 (0.65)	4.78 (0.70)	.07	.60	-.31	.17	.11
ψ2: Distraction	3.88 (0.80)	3.55 (0.83)	.32	2.04*	-.64	-.01	.39
ψ2: Suppression	1.89 (0.79)	1.95 (0.90)	-.05	-0.32	-.26	.36	-.06

Note. Equal variances are assumed for all variables except for reappraisal. Ψ1 = Contrast 1 (1, -.5, -.5). ψ2 = Contrast 2 (0, -1, 1). ***Ψ*** = contrast estimate. CI = confidence interval; *LL* = lower limit; *UL* = upper limit. *$p < .05$. **$p < .01$. ***$p < .001$.

4.3. Discussion

Study 2 examined whether pro-hedonic goals would result in greater selection of interpersonal emotion regulation strategies reappraisal, distraction, receptive listening, and lower suppression compared to instrumental goals. Additionally, Study 2 examined potential

differences between strategy selection following instrumental social and task goals. Pro-hedonic goals resulted in greater selection of receptive listening, but not reappraisal, or distraction. The experimental manipulation rules out reverse causation or omitted variables as an explanation for the goal/interpersonal emotion regulation associations found in Study 1. Study 2's experimental design indicated that when workers want to make a co-worker feel better (a pro-hedonic goal), they are more likely to use receptive listening. This finding supports prior research on the phenomenon of emotional sharing and listening: individuals feel happier when they share their experiences with others (Lambert et al., 2013), especially when the other is attentive and responds positively (Rimé, et al., 2020).

Pro-hedonic goals did not relate to less selection of expressive suppression (the hypothesized effect was found only when analyses were run on the complete sample, which could be due to a lack of power, or as a result of adhering to the exclusion criteria). Study 2 findings also indicated that workers are more likely to select the interpersonal emotion regulation strategy of 'distraction', when they want to avoid conflict with their co-workers (a social goal), rather when they want to get work done with their co-workers (a task goal). Prior research has established that distraction can help individuals disengage from negative emotions or unpleasant situations, and can 'block' emotional processing at an early stage, especially when negative emotions are running high (Sheppes et al., 2011). Research on intrinsic emotion regulation has shown that distraction of one's own negative emotions lowers stress (Sadner et al., 2021), and decreases relationship conflict by maintaining group cohesion (Griffith et al., 2014). Accordingly, it is not surprising that when an employee wants to 'diffuse' a negative situation and avoid conflict during social interactions with co-workers, distracting a co-worker from their negative emotions is a preferred strategy of choice.

Importantly, a very large number of participants reported to consider multiple regulation goals (besides their assigned regulation goal-group). As such, it is important to consider why our participants reported to have all three goals in mind to a varying degree, despite having been assigned to one regulation goal group only. Most likely, individuals simply do not have only one goal in mind when regulating the emotions of others. Instead, they may have various goals in mind. When we engage in interpersonal emotion regulation of co-workers we like and get along well with, it is not surprising that we want them to feel better, even when we also want to get our work done. In examining the manipulation check item ('*When you answered the previous questions, how much were you thinking about the following goals from 0 (not at all) to 100 (the entire time)')*, the vast majority (N = 395) of participants indicated to consider the pro-hedonic regulation goal, irrespective of their assigned regulation goal group. Perhaps, goals to regulate other's emotions are multi-faceted – including an overlap or progression over time – which was not measured or considered in Study 2. To the authors' current knowledge, no studies to date have considered the combination, progression or overlap of regulation goals in interpersonal emotion regulation. This is an important avenue for future research.

5. General Discussion

Previous research on how people regulate others' emotions at work (interpersonal emotion regulation) has mostly focused on the influence of leaders on their followers, rather than the frequent interactions between co-workers (e.g., Madrid et al., 2018; Madrid et al., 2019; Vasquez et al., 2020). One key insight from this literature is that the *motives* for regulating others' emotions at work are a key determinant of whether emotion regulation leads to positive outcomes (e.g., Niven et al., 2019; Vasquez et al., 2021). Findings from the two empirical studies in this paper extend this research by showing that regulation *goals* (why the regulation is

conducted) have an impact on the relationship dynamics at work in terms of influencing TMX and relationship conflict, via the selection of regulation strategies.

Specifically, Study 1 showed significant indirect effects where: a) pro-hedonic goals related to greater receptive listening to co-workers, which related to lower co-worker rated relationship conflict, and b) instrumental goals related to greater expressive suppression of co-workers' emotions, which related to higher co-worker rated relationship conflict and lower co-worker rated TMX. Study 2 provides stronger causal evidence that differences in the goals for regulating co-workers' emotions are linked to differences in the strategies people use to regulate them. Specifically, we found that people use more receptive listening when their goal is pro-hedonic rather than instrumental, and use more distraction when their goal is social rather than task-focused.

Study 1 results highlight that some interpersonal emotion regulation strategies have more beneficial effects on the relationship dynamic of close co-workers compared to others, and the decision of which strategy to use, is driven by the regulation goals employees have. Research to date outlines 'listening' as an important focus in most management education (Spataro & Bloch, 2018), due to the association with a wide variety of desired organizational outcomes (including performance, leadership, trust, and well-being; Kluger & Itzchakov, 2022). Conceptually, receptive listening is a strategy which aligns with the characteristics expected in high quality workplace relationships, hallmarked by showing interest in the other as a person, and not just as a co-worker (Morrison & Cooper-Thomas, 2017). High-quality relationships are argued to progress more quickly when individuals self-disclose and share their experiential world. As relationship conflict stems from the experience of personality clashes (Friedman et al., 2000), it follows that when individuals engage in receptive listening at work, that is, listen to the other talk

and allow the other person to vent, greater understanding is established between two individuals, which helps reduce relationship conflict.

The use of interpersonal emotion regulation strategy expressive suppression related to higher relationship conflict, and lower TMX among co-workers. Meta-analyses have linked the suppression of one's owns emotions to ongoing negative affect in daily life (Boemo et al., 2022) and lower mental health (Hu et al., 2014). Intrinsic suppression also has been found to undermine conflict resolution during discussions (Thomson et al., 2018), and research on romantic partners has found that when one partner suppresses their own emotions during interactions, the blood pressure of both partners increases (indicating an increase in stress response; Butler et al., 2003). Suppression does not only have potential negative consequences when we use this strategy to regulate our own emotions, but also when we use this strategy on others: modulating the emotion response of others (the broad family of strategies that includes expressive suppression) lowers trust and LMX in team-follower contexts (Little et al., 2012; 2016). Our results support and extend prior research on the detrimental effects of suppression. We found a relationship between the use of suppression to regulate a co-worker's emotions and a lower-quality work relationship, hallmarked by higher relationship conflict and lower TMX.

5.1. Theoretical Contributions and Practical Implications

This paper makes contributions to research on TMX and relationship conflict, and the field of interpersonal emotion regulation. First, this paper extends the application of Côté's (2005) social interaction model of emotion regulation by examining the influence of interpersonal emotion regulation on TMX and relationship conflict, in the context of co-workers. As little research exists on which *specific emotion regulation behaviors* influence relational dynamics amongst co-workers at work, this study provides important and novel insights. As the

need for high quality relationships with others is a fundamental human motivation (Baumeister & Leary, 1995; Ryan & Deci, 2000), findings from this paper highlight the importance of considering and examining interpersonal emotion regulation as an antecedent and determinant of TMX and relationship conflict. Not surprisingly, it is not just elements of the work environment (like job demands, role ambiguity and working overtime; De Raeve et al., 2008, or autonomy and organizational attitudes; Seers, 1989) that influence strain and interpersonal outcomes, but also specific behaviors – that is, interpersonal emotion regulation strategies – during social interactions, that drive these outcomes.

Secondly, our results provide insight into the differential effect of interpersonal emotion regulation strategies on relational work outcomes. Importantly, the specific interpersonal emotion regulation strategies that relate to TMX and relationship conflict are *expressive behaviors* – namely interpersonal receptive listening, and expressive suppression. Encouraging others to share their emotions, allowing them to vent, and listening to them talk about their troubles, as well as avoiding telling them to suppress how they feel, is important for a high-quality, low-conflict co-worker relationship. This finding suggests the importance of response modulation strategies (i.e., influencing another person's emotional response after the emotion has been fully formed; Gross, 1998) in interpersonal emotion regulation, over the other process families (such as cognitive change and attention deployment) in relation to co-worker relationship dynamics.

Finally, this research advances knowledge on the process of interpersonal emotion regulation, building on Gross' (2015) Extended Process model. Specifically, our results show that pro-hedonic and instrumental goals influence the selection stage of interpersonal emotion regulation. This has important practical and managerial implications. Findings of Study 1 and

Study 2 provide evidence that pro-hedonic goals have causal links to the use of receptive listening to regulate co-workers' emotions. This provides valuable practical guidance for management as the activation of pro-hedonic goals results in the use of more receptive listening rather than suppression, and flows through to TMX and relationship conflict. If management can explicitly encourage pro-hedonic goals, by outlining that improving emotional states of co-workers as a focus area in and of itself is important for maintaining harmonious relationships – this alone can positively change behavior. Encouraging and training employees to focus more strongly on the improvement of the other's emotional state, rather than an instrumental goal, can help guide the selection of more optimal interpersonal regulation strategies at work. As co-worker relationships impact the broader social/relational fabric and many fundamental issues of organizations (including socialization, citizenship behavior, and team performance; Zarankin & Kunkel, 2019), a practical understanding of specific interpersonal emotion regulation strategies, and what drives the selection of these strategies, is an accessible and important focus for workplace training and interventions.

5.2. Limitations

This paper has several limitations. Firstly, even though participants were assigned a goal condition in Study 2, a large number of participants reported to have considered regulation goals beyond their assigned goal condition. This led to a significantly reduced sample, when all exclusion criteria were adhered to. However, we found the same results regarding the causal link of the use of receptive listening and distraction, irrespective of whether we used the full or reduced sample. Additionally, that participants had multiple regulation goals despite being asked to consider one goal, is an interesting finding in and of itself, and is an avenue for future research.

It is important to note that the interpersonal emotion regulation strategies that were examined are broadly considered 'affect improving' strategies. If interpersonal 'affect worsening' strategies would have been examined (for example: confronting others by criticizing them or being rude to them, ignoring them, or disregarding their opinions; Niven et al., 2009), these findings may have been different. In that case, perhaps the overarching contra-hedonic goal of 'making others feel worse' is present, even when instrumental goals such as getting work done or avoiding conflict are considered. Future research could examine the presence or overlap of several regulation goals during interpersonal interactions at work. The current research also examined *global tendencies* to regulate others' emotions at work for particular goals. This may be quite different to instances of in-the-moment goal formation and strategy selection. Future research could examine the regulation of others' emotions at work using extensive longitudinal analysis (e.g., momentary assessment or daily diary studies), to capture more specific instances of interpersonal emotion regulation (e.g., Koval et al., 2020).

Finally, the scale that was used to measure regulation goals (English et al., 2017) was developed with the regulation of one's own emotions (intrinsic regulation) in mind. It is however possible that the goals we have when regulating other's emotions are different from the ones we have to regulate our own emotions – especially when we consider work-related goals. Developing a tailored measure that captures regulation goals for interpersonal emotion regulation at work would greatly facilitate the extension of knowledge in the field of emotion regulation. Future research could integrate and build on Niven (2016) and English et al. (2017)'s work, as well as the recently developed framework of 'motivated affect regulation' at work (Bindl et al., 2022).

5.3. Conclusion

The quality of workplace relationships plays a crucial role in job satisfaction, job performance, and the broader social/relational fabric of organizations (Zarankin & Kunkel, 2019), making it an important focus for management and employees alike. The results of this paper provide empirical support for a theoretically derived pathway based on Gross's Extended Process Model (2015) and Côté's (2005) social interaction model of emotion regulation that highlights the important process of goals, to workers' use of specific interpersonal emotion regulation strategies, to relational work outcomes (TMX and relationship conflict). Across two studies, we found that when employees are driven by the pro-hedonic goal to want to make their co-worker feel better, they are more likely to use the strategy of expression of emotions rather than the suppression of emotions, which in turn reduces co-workers' perception of relationship conflict. As the strategy of suppression leads to less desirable outcomes, such as higher relationship conflict and lower TMX, these results suggest that management techniques that encourage co-workers to focus on each other's emotions (including maintaining positive emotional states and healing negative feelings) can greatly benefit relational work dynamics. This study has important consequences for workplace training and interventions and helps build a more dynamic and nuanced picture of goal driven interpersonal emotion regulation at work.

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Supplementary Material

Table 7

One-Way Between-Subjects Analyses of Variance with Contrast Coding Comparing 'Feel Better' to 'Avoid' and 'Get Work Done' (Contrast 1) and 'Avoid' to 'Get Work Done'(Contrast 2) of Total Sample (N = 398)

Outcome Variable	*M* (*SD*)				95% CI		
	Pro-hedonic Goals (*n* = 132)	Instrumental Goals (*n* = 266)	***Ψ***	*t*	*LL*	*UL*	Hedges' *G*
ψ1: Reappraisal	4.40 (0.79)	4.46 (0.67)	-.06	-0.80	-.21	.09	-.09
ψ1: Receptive Listening	5.24 (0.63)	4.89 (0.73)	.35	4.68***	.20	.50	.50
ψ1: Distraction	3.82 (0.82)	3.72 (0.86)	.09	1.09	-.15	.20	.12
ψ1: Suppression	1.86 (0.89)	2.06 (0.92)	-.20	-2.06*	-.39	-.01	-.22
	Pro-Social Goal (*n*= 133)	Task Goal (*n* = 133)	***Ψ***	*t*	LL	*UL*	Hedges' *G*
ψ2: Reappraisal	4.43 (0.64)	4.49 (0.69)	-.06	-.78	-.11	.24	.09
ψ2: Receptive Listening	4.87 (0.71)	4.90 (0.76)	-.03	-.29	-.14	.20	.04
ψ2: Distraction	3.86 (0.79)	3.59 (0.90)	.26	2.52*	-.46	-.06	-.31
ψ2: Suppression	2.08 (0.90)	2.04 (0.95)	.04	.36	-.26	.18	-.05

Note. Equal variances are assumed for all variables. Ψ1 = Contrast 1 (1, -.5, -.5). ψ2 = Contrast 2 (0, -1, 1).

Ψ = contrast estimate. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

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

Introduction to Chapter 4

In the previous Chapter, I examined *why* and *how* employees regulate the emotions of co-workers. Australian students with part-time or full-time jobs participated in the study and nominated up to three of their co-workers. The findings from Study 3 indicate that pro-hedonic goals (regulating to make others feel better) predict the use of more extrinsic reappraisal, receptive listening, and distraction, and less suppression. Instrumental goals (regulating for a specific instrumental purpose, such as avoiding conflict or getting work done) predicted more use of suppression, and less use of receptive listening. In turn, the use of receptive listening related to lower co-worker rated relationship conflict, and suppression related to higher co-worker rated relationship conflict and lower Team-Member Exchange.

To strengthen claims on the causal relationship between regulation goals and extrinsic emotion regulation, I supplemented Study 3 with an online experimental manipulation (Study 4). Findings from Study 4 indicate that when workers want their co-worker to feel better, (rather than avoiding conflict or getting work done), they choose regulation strategy social sharing. When workers have social goals rather than task goals, they select distraction. Importantly, all participants reported to have more than one goal in mind during the experiment despite their assigned group – suggesting that when individuals regulate their co-workers' emotions, they usually want them to feel better, even when they also have instrumental goals like getting work done or avoiding conflict.

In this next chapter, Chapter 4, I examine the influence and mechanism of extrinsic emotion regulation in a different occupation and social context. I conducted a field study amongst healthcare leaders and followers in a hospital in China, following the first wave of COVID-19 (Study 5). To examine *how* healthcare leaders regulate their followers' emotions, I

investigate whether leaders' use of extrinsic suppression and reappraisal influence followers' positive and negative affect at work. Accordingly, I examine whether leaders' extrinsic emotion regulation influences followers' job satisfaction over time, when controlling for followers' intrinsic emotion regulation (the regulation of their own emotions – which has never been examined in tandem with extrinsic regulation). Finally, I examine whether followers' ability to cope with the ongoing change in the hospital moderates the relationship between leaders' extrinsic regulation and followers' job satisfaction. This is especially relevant, as this study was conducted during a stressful time in the hospital with ongoing changes and uncertainty.

Chapter 4. Who Cares for Those Who Care?

Who Cares for Those Who Care? Healthcare Leaders' Regulation of Followers' Emotions on Follower Job Satisfaction

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Abstract

In Australia and worldwide, the healthcare sector is experiencing a workforce crisis, making the maintenance or improvement of employees' job satisfaction a critical focus for healthcare leaders. This research examines how leaders influence followers' affective experience by regulating their emotions (extrinsic emotion regulation). Building on Conservation of Resources Theory, we investigate the influence of leaders' extrinsic emotion regulation strategies reappraisal and suppression. Data was collected from 337 healthcare workers and 54 leaders over two timepoints. Leaders' extrinsic reappraisal increased followers' job satisfaction whereas extrinsic suppression decreased job satisfaction (controlling for followers' own emotion regulation). These effects were mediated by followers' affect and moderated by followers' capacity to cope with change. Our results provide new theoretical and practical insights into how leaders regulate followers' emotions in the context of healthcare.

Keywords: extrinsic emotion regulation, job satisfaction, positive affect, negative affect

1. Introduction

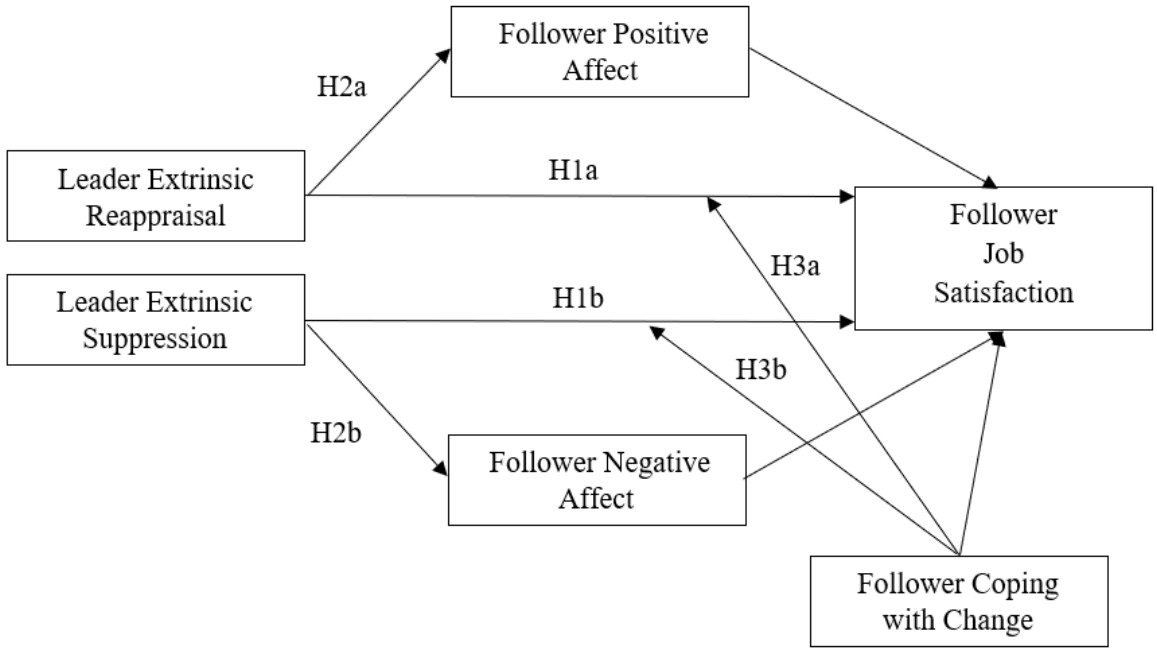
The job satisfaction of healthcare employees is a crucial factor in sustaining today's healthcare workforce (WHO, 2022). Recent crises (e.g., the COVID-19 pandemic) have exacerbated the problem of low job satisfaction among healthcare employees (Zhang et al., 2022), increasing anxiety and depression (Chen et al., 2021), and prompting an unprecedented wave of resignations worldwide (Poon et al., 2022). As these workforce problems threaten the sustainability of the healthcare system, there is an urgent need to better understand the drivers of healthcare employees' job satisfaction in the context of today's tumultuous modern healthcare environment.

It is widely acknowledged that leaders play a critical role in influencing how satisfied followers feel about their job (Ritzenhöfer et al., 2019; Caza et al., 2021; Specchia et al., 2021). Yet few studies have investigated the *specific strategies* that leaders use to influence followers' affective experience, known as extrinsic emotion regulation (Nozaki & Mikolajczak, 2020). For example, when a healthcare employee is upset after a difficult conversation with family members of a patient, a leader may say: "Try to see the positive… although the progress is slow, our patient will be going home next week, and that is really wonderful!" (defined as *extrinsic reappraisal;* helping followers to reframe their situation to see it in a more positive light; Xiao et al., 2022). Alternatively, a leader may say: "Please don't cry, I'd prefer you put on a brave face for the patient's sake!" *(extrinsic suppression;* encouraging followers to suppress the expression of their emotions; Xiao et al., 2022). In this study, we investigate both direct effects of healthcare leaders' use of these two extrinsic emotion regulation strategies on followers' job satisfaction, as well as moderation effects of followers' internal resource capacity to cope with change. Building on Hobfoll's Conservation of Resources (COR) theory (1989; 2011), we posit that regulation received from leaders is resource-infusing, and followers' capacity to cope with change can make them more or less

receptive to leaders' resource-infusing efforts. Coping with change is crucial to consider as a moderator given the COVID-19 context (when this research was conducted) and future contexts characterized by rapid change and high uncertainty. It is also relevant in relation to job satisfaction, as healthcare employees had to manage increased job demands such as the implementation of a raft of new processes and procedures, while managing heightened levels of negative affect at work (WHO, 2020). As part of an integrative mediated moderation model, we tested the underlying process, that is, change in followers' positive and negative affect as theoretically aligned mechanisms by which leaders' extrinsic regulation influences followers' job satisfaction. Overall, our theoretical model is depicted in Figure 1.

Figure 1

Research model of leaders' extrinsic emotion regulation on followers' job satisfaction



Note. Research models indicating the hypothesized (H1, H2, H3) influence of leaders' extrinsic emotion regulation reappraisal and suppression on followers' job satisfaction through positive and negative affect, moderated by followers' ability to cope with change.

Building on the theoretical framework of Gross's Process Model (1998, 2015), and Hobfoll's Conservation of Resources (COR) theory (1989; 2011), this study makes a number of important theoretical and empirical contributions. Firstly, this study extends the theoretical contribution of COR theory to extrinsic emotion regulation research by investigating specific extrinsic emotion regulation *strategies* (extrinsic reappraisal and suppression). By measuring both leaders' and followers' report of leader extrinsic emotion regulation strategies, we can identify potential discrepancies in experience. In this way, this study responds to repeated calls for the need to avoid construct ambiguity by studying more clearly defined, specific behavioral aspects of leadership as perceived by both leaders and followers (Sidani & Rowe, 2018; Van Knippenberg & Sitkin, 2013). To ensure it is the healthcare leaders' behavior influencing followers' job satisfaction, we controlled for followers' efforts to regulate their own emotions (*intrinsic emotion regulation).* Our study is comprehensive in testing the *mechanisms* (affect) by which leaders' extrinsic emotion regulation impacts followers' job satisfaction, while controlling for followers' own regulation efforts (intrinsic regulation), which has not been done previously. We also extend COR theory by investigating followers' ability to cope with change as an important moderating individual difference in internal resource capacity, thereby providing new insights into how the effects of extrinsic emotion regulation strategies are not the same for all followers. Overall, this study advances much needed knowledge on how leaders' use of extrinsic regulation strategies can influence followers' resources to avoid depletion and enhance job satisfaction.

2. Extrinsic Emotion Regulation

Emotion regulation refers to strategies people use to influence the type, intensity, and timing of emotions experienced by themselves or others (Gross, 1998). One of the most influential theoretical models of emotion regulation is Gross's Process Model (1998) which outlines the situation-attention-appraisal-response process by which emotions are generated,

and the regulation strategies which can influence emotions at each step in this sequence. Regulation strategies can either be response-focused (occurring after an emotion has already been felt/generated) or antecedent-focused (occurring before the response; Gross, 1998). Gross' (2015) Extended Process Model extended the original process model by distinguishing three stages of the regulation cycle, namely identification (identifying whether to regulate emotions), selection (where an emotion regulation strategy is selected) and implementation (where the regulation takes place). Emotion regulation is categorized by *who* regulates *whose* emotions. You can regulate your own emotions (i.e., engage in *intrinsic emotion regulation*), you can regulate someone else's emotions (i.e., engage in *extrinsic emotion regulation*), or your emotions can be regulated with the help of others (i.e., receive *extrinsic emotion regulation* from another person, sometimes referred to as *interpersonal regulation*).

In this paper, we rely on Gross' terminology (*extrinsic emotion regulation),* as this emphasizes the source of the regulation attempt (i.e., extrinsic = the attempt comes from another person, in this case, the leader at work). Extrinsic emotion regulation has three distinct characteristics (Nozaki & Mikolajczak, 2020). Extrinsic regulation is 1) driven by goal setting, 2) can be aimed at either making the other feel better or feel worse, and 3) takes place through regulatory acts (one individual (the 'actor') using specific strategies to influence the emotions of another (the 'target'). These characteristics set extrinsic emotion regulation apart from related constructs like emotional contagion (the adoption of emotional states of others, which happens automatically), social support (which is positively valenced), and empathy (the ability to understand others' emotions, which is affective/cognitive rather than behavioral). Gross (2015) outlined that the Extended Process Model applies to both intrinsic and extrinsic regulation, yet argued that "more work needs to be done—both theoretically and empirically—to figure out how to best apply the EPM [Extended Process

Model] to extrinsic emotion regulation, and to determine similarities and differences between intrinsic and extrinsic regulation" (p. 133).

To date, the majority of studies have focused on intrinsic emotion regulation (i.e., the strategies people use to regulate their own emotions). Studies have shown that when employees effectively regulate their own emotions, their job satisfaction increases and they are less likely to consider leaving their job as they have more positive appraisals of the work context (Côté & Morgan, 2002; Wang et al., 2019). Two of the most commonly studied intrinsic emotion regulation strategies are *positive reappraisal* (an antecedent-focused process which involves changing the interpretation of events to alter the emotional impact) and *expressive suppression* (a response-focused process which involves hiding the expression of emotions in facial appearance, tone-of-voice, or body language). Meta-analyses have shown that intrinsic reappraisal is effective for regulating emotions (Webb et al., 2012), is associated with fewer clinical symptoms of depression and anxiety (Aldao et al., 2010) and higher job satisfaction (Kafetsios et al., 2012). In contrast, intrinsic suppression is associated with a range of negative outcomes, including greater depression and anxiety (Aldao et al., 2010) and negative physiological consequences (e.g., increased blood cortisol, Lam et al., 2009).

The effects of regulating others' emotions, that is, extrinsic emotion regulation, are comparatively less well understood but is an emerging line of enquiry that is attracting rapid research attention (Cohen & Arbel, 2020; Nozaki & Mikolajczak, 2022; Troth et al., 2018). Having another person, particularly a salient person such as your leader at work, use specific strategies to regulate your emotions (e.g., getting you to reappraise events to change their emotional impact, or encouraging you to suppress the expression of your emotions to reduce their intensity) is likely to be a powerful driver of follower job satisfaction. There is evidence that leaders do engage in 'affect improving' regulation at work (Troth et al., 2018) and that this influences outcomes such as followers' performance, team innovation (Holman & Niven,

2019; Vasquez et al., 2020) and leader-member social exchange (LMX; Little et al., 2016). However, to date, studies on extrinsic emotion regulation have largely focused on generalized 'affect improving' (that is, regulating the other to make them feel better) and 'affect worsening' (regulating the other to make them feel worse) extrinsic emotion regulation at work (Barnett et al., 2020), in romantic relationships (Horn et al., 2019) and in educational settings (Han & Xu, 2021). By focusing more globally on making others 'feel better' or 'feel worse' (e.g., Niven et al., 2011; Barnett et al., 2020) rather than studying the specific strategies used, these studies offer limited practical insights on the effectiveness of specific extrinsic emotion regulation strategies leaders can adopt.

In this study, we answer Gross' (2015) call for the need to determine similarities and differences between intrinsic and extrinsic regulation, in several ways. We extend the literature on extrinsic emotion regulation by teasing out the specific effects of leaders' use of two extrinsic emotion regulation strategies, specifically extrinsic reappraisal and suppression, to improve followers' job satisfaction. We also empirically test the underlying mechanisms, that is, the mediating role of affect as to date, studies have tended to assume positive outcomes are achieved through effective regulation of others' emotions, without explicitly examining the underlying mechanisms (e.g., mediation of affect). Further, we address a major limitation in the extant literature. Specifically, that the influence of intrinsic emotion regulation has not been included in existing studies on extrinsic emotion regulation (Webb et al., 2012). When individual's intrinsic regulation is not considered, we do not know whether regulation conducted by others, such as a leader, has any additional benefits – or whether it is the individual's own regulation that is the main driving force behind positive work outcomes. Therefore, in investigating how leaders regulate followers' emotions (specifically extrinsic reappraisal and suppression) to improve followers' job satisfaction, mediated by changes in

affect, we also included the effects of followers' regulation of their own emotions (intrinsic emotion regulation). Below, we unpack our theoretical arguments in more detail.

2.1. Effect of Extrinsic Emotion Regulation on Job Satisfaction

Hobfoll's Conservation of Resource theory (COR, 1989; 2011) is a motivational theory about individuals' drive to acquire and retain resources. According to COR theory, there are different types of resources (e.g., object/material, personal/psychological, social, energy) that employees are motivated to gain, and that they try to protect when lost or threatened, such as during times of high work stress, change and uncertainty. When employees are experiencing stress over prolonged periods of time, resources can become depleted, and individuals are motivated to preserve and protect further losses of resources (Hobfoll et al., 2018). Importantly, COR theory argues that resources do not only exist within individuals but can also be found in the social environment. This can be both a good and a bad thing, as employees' social environment can 'foster and nurture or limit and block resource creation and sustenance' (Hobfoll, 2018, p. 107).

Social support is one example of a powerful external resource, yet there is also evidence to suggest that even social support can, at times, be unhelpful or even make situations worse (Beehr et al. 2003; 2010; Deelstra et al. 2003). Based on COR theory, we argue that when followers manage their own emotions, this is a resource-intensive (depleting) activity. In contrast, when salient individuals like leaders regulate followers' emotions, this can have more resource-infusing (replenishing) effects as the expanding of resources is done by someone else, leading to stronger effects even when individuals regulate their own emotions. However, we argue that it also depends on the type of extrinsic emotion regulation strategies that leader use. Building on prior research (Sheppes & Meiran, 2008), we argue that taking the time to encourage someone to think of a situation differently is a resource investment by leaders. Therefore, we hypothesize leader extrinsic reappraisal is an effective

strategy in terms of helping followers replenish lost resources as it confers resources onto the follower. In contrast, we argue that simply telling someone to hide their emotions, that is, extrinsic suppression, involves minimal resource investment from the leader and therefore, is likely to be a less effective strategy to help followers regain lost resources (i.e., there is little transfer of resource investment from leaders to followers). As suppression-based strategies have generally been found to deplete cognitive resources (Wang et al., 2014), encouragement by a leader to suppress emotions will likely worsen followers' job satisfaction. Hence, we predict:

Hypothesis 1a: Leader extrinsic reappraisal will be positively associated with followers' job satisfaction.

Hypothesis 1b: Leader extrinsic suppression will be negatively associated with followers' job satisfaction.

2.2. The Mediating Role of Followers' Positive and Negative Emotions

In addition to investigating the direct effects of leaders' extrinsic emotion regulation strategies on followers' job satisfaction, we also seek to explain these relationships. It is a well-established finding in the intrinsic emotion regulation literature that positive and negative affect mediates the effect of intrinsic regulation strategies on outcomes (Brans et al., 2013). For example, positive and negative affect mediated the effect of intrinsic emotion regulation on both job satisfaction (Liu et al., 2010) and work engagement (Castellano et al., 2019). Similarly, Lee and Jang (2019) found that emotions of enjoyment, anger, and frustration mediated the influence of both intrinsic suppression and reappraisal on burnout in South Korean nurses. As job satisfaction reflects an affective appraisal of the work context, it is not surprising that an individual's affective state at work is an important driver of affective outcomes. Indeed, a meta-analysis has shown that negative affect is consistently associated

with lower job satisfaction, whereas positive affect is associated with higher job satisfaction (Connolly & Viswesvaran, 2000). In terms of leader extrinsic emotion regulation, there is some evidence that leaders who use affect-improving emotion regulation elicit positive feelings among team members, leading to higher feelings of trust (Madrid et al., 2019). However, these findings have not been extended to specific extrinsic emotion regulation strategies. Based on the available empirical evidence, we propose that positive and negative affect will mediate the relationship between extrinsic reappraisal and suppression received from leaders and followers' job satisfaction:

Hypotheses 2a: Leader extrinsic reappraisal will be associated with higher positive / lower negative affect, which in turn is associated with higher job satisfaction.

Hypotheses 2b: Leader extrinsic suppression will be associated with lower positive / higher negative affect, which in turn is associated with lower job satisfaction.

2.3. The Moderating Role of Followers' Capacity to Cope with Change

A key tenet of Hobfoll's (2011) COR theory is the proposition that there are individual differences in the internal resources individuals have available. Employees with greater resources are less vulnerable to resource loss and more capable of resource gain, whereas employees who lack resources are more vulnerable to resource loss and less capable of resource gain (Hobfoll et al., 2018). In line with COR theory, Nguyen et al. (2016) found that resource depleting effects of intrinsic emotion regulation strategies are not the same for everyone – effects of surface acting (an intrinsic regulation strategy) on absenteeism were less detrimental for employees more endowed with higher levels of self-efficacy (a personal resource), as these individuals are less negatively affected by the drain on motivational resources.

In this study, we extend these arguments by investigating the moderating role of followers' capacity to cope with change. Organizational change can be stressful particularly when it has an unexpected and transformational effect on the work people do and their experience in their jobs, as was seen during the COVID-19 pandemic (Nemțeanu et al., 2022). The individual's capacity to cope with change is a specific type of personal resource that is somewhat similar to resilience, although more directly aligned with change within the organization. Studies on employees' capacity to cope with change have indeed shown that it is an important personal resource, particularly beneficial during times of high uncertainty and rapidly evolving situations (Ashford, 1988), and related to higher job satisfaction, and lower burnout (Judge et al., 1999; Srivastava & Agrawal, 2020). As job satisfaction is both a cognitive evaluation and affective response to how an individual is experiencing their job, we expect that the belief that the individual is able to manage change effectively will influence the extent to which the leaders' extrinsic regulation shapes their appraisal of satisfaction with their job, rather than their more generalized affective experience at work.

As some employees are better able to cope with major change and disruptions (Judge et al., 1999; Oreg, 2003), we propose that followers with greater capacity to cope with change will benefit more from leaders' extrinsic emotion regulation. More specifically, we argue that followers' capacity to cope with change will moderate the effect of extrinsic emotion regulation received from leaders on followers' job satisfaction. We predict that the negative effects of leaders' extrinsic suppression on followers' job satisfaction will be weaker for followers with greater capacity to cope with change (as they have greater resources available). Based on COR's proposition that resources beget further resources; we predict the positive effects of leaders' extrinsic reappraisal to be even stronger for followers who are better able to cope with change. That is, followers who generally have greater capacity to cope with change will derive *greater* benefits from leaders' use of effective extrinsic regulation strategies, such

as reappraisal, and will also be protected from the negative effects of leaders' use of ineffective or counter-productive extrinsic regulation strategies, such as suppression:

Hypothesis 3a: The positive relationship between extrinsic reappraisal and job satisfaction will be stronger for those better able to cope with change compared to those less able to cope with change.

Hypotheses 3b: The negative relationship between extrinsic suppression and job satisfaction will be weaker for those better able to cope with change compared to those less able to cope with change.

3. Method

3.1. Research Context

This research was conducted within a large public hospital in Eastern China in 2020 during a time of high stress and uncertainty, that is, following the first outbreak of the COVID-19 pandemic. At this time in the hospital, there were a lot of changes in management, paired with confusion and insecurity due to conflicting information on the pathology and treatment of COVID-19. Processes and guidelines in the hospitals changed rapidly. Healthcare worker's experience was hallmarked by fear of infection of themselves and loved ones (Spoorthy et al., 2020), with national shortages of personal protective equipment (Fan et al., 2020). To better understand leaders' emotion regulation efforts in this particular context, we asked employees and leaders to reflect on leaders' attempts to influence emotions since the start of the COVID-19 pandemic. We found that 49% of employees reported that their leader helped them to feel better and 86% of leaders indicated that they had tried to regulate their followers' emotions.

3.2. Procedure and Participants

To achieve a sample of at least 200 participants following standard path analysis heuristics at Level 1 (Kline, 2015), all full-time employees in the hospital were invited to

participate in the research after receiving ethics approval from the research board at the 4th author's University. Surveys were administered in July (T1) and September (T2), 2020. Due to increased turnover intention and higher infection rate of healthcare workers (compared to other workers; Hou et al., 2021) following the first wave of COVID-19, a relatively short follow-up time was chosen (2 months) to retain as many participants as possible. At T1, 413 followers and 54 leaders completed the survey (88% response rate). At T2, 76 employees (18.40%) did not complete the follow-up survey leaving a final sample of 337 followers and 54 leaders. Employees' average age was 35.72 years (*SD* = 8.5) (Leaders: 47.22, *SD* = 8.14), average tenure in the hospital was 7.5 years (*SD* = 7.4) (Leaders: 13.3, *SD* = 10.34) and average time in their team was 5.6 years (*SD* = 6.5) (Leaders: 9.1, *SD* = 9.2). Since the outbreak of COVID-19, employees worked an average of 44.2 hours a week (Leaders: 42.3), with 7.83 overtime hours (Leaders: 11) with an average of 28 patients under their care per week (Leaders: 33). Most employees were female (65.6%) (Leaders: 53.7%), with 49% doctors, 30% nurses and 21% technicians.

3.3. Measures

Surveys were translated to Chinese by the 4th author and were back-translated into English by an independent research assistant with bilingual proficiency in English and Chinese, using Brislin's (1970) procedure. Discrepancies between the two versions were discussed for conceptual clarity and revised. In the measures at T1, leaders and followers were asked to reflect back on their experience since the start of the pandemic whereas T2 measures reflected employee job satisfaction since the last survey. Some measures were shortened (i.e., less items per measure) to limit the length of the survey so as to not burden healthcare providers. For all items, see Appendix A.

Leader extrinsic emotion regulation (rated by followers and leaders) (T1). Two subscales of the Regulating Others' Emotions Scale (ROES; MacCann et al., 2018; Xiao et

al., 2022) were used to assess leader extrinsic reappraisal and leader extrinsic suppression, rated by followers (about how their leader regulated them) and leaders (about their regulation of their followers). Extrinsic reappraisal was measured using four items, e.g., *my team leader* or *I "discussed different ways of interpreting the situation"* and suppression was measured using two items, e.g. *my team leader* or *I* "*encouraged me (them) to hide how I was (they were) feeling*" (1 *strongly disagree* to 6 *strongly agree*).

Coping with Change (T1). A 6-item measure by Judge et al. (1999) measured ability to cope with change e.g. "*I think I cope with change better than most of those with whom I work*". (1 *strongly disagree* to 5 *strongly agree*).

Positive and Negative Affect Scale – Short Form (T1 and T2). The PANAS-SF (Watson & Clark, 1994) measured positive and negative affect. Followers indicated the extent to which they felt 10 affective states at work (5 positive and 5 negative; e.g., "*distressed*"; 1 *very slightly or not at all* to 5 *extremely*). Positive and negative affect were measured twice, with affect at T1 functioning as a control.

Job Satisfaction (T2). We used the Faces scale, a single item originally developed by Kunin (1955). Participants were asked to indicate the face that best described their attitude towards their job (1 *happy* to 7 *unhappy* face (reverse-scored)).

Control variables: Followers' intrinsic emotion regulation (T1) was included in the analysis as we were interested to understand the effects of leaders' extrinsic regulation, while holding followers' own regulation constant. The 10-item Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) was used to assess intrinsic emotion regulation at work for reappraisal e.g. "*When I wanted to feel more positive emotion (such as joy or amusement) at work, I changed what I was thinking about*" and suppression e.g., "*I kept my emotions to myself at work*" (1 *strongly disagree* to 5 *strongly agree*). In addition, we controlled for

frequency of interaction between followers and leaders (as this is likely to influence followers' experience of extrinsic emotion regulation received from leaders), follower gender and follower affect at T1.

3.4. Analytical Approach

To take into account the multilevel nature of our data (i.e., followers clustered under 54 leaders), we conducted multilevel modeling in Mplus 8 (Muthén & Muthén, 2017) using the Bayes estimator with 10000 iterations (following Rubin, 1981 and Efron, 2003). Convergence was assessed using the Gelman-Rubin criterion (Gelman et al., 2004). Mplus default priors were used. As default priors can unintentionally behave as highly informative priors when samples are small (Smid & Winter, 2020), all models were also run using frequentist estimation (Maximum Likelihood) to ensure stable results. We used three separate models to test our hypotheses: 1) the influence of extrinsic emotion regulation reported by both followers and leaders on follower job satisfaction (Model 1; Hypotheses 1a and 1b); 2) the role of positive and negative affect as mediators of the extrinsic regulation–job satisfaction association (Model 2; Hypotheses 2a and 2b); and 3) and the role of coping with change as a moderator of the extrinsic regulation–job satisfaction association (Model 3; Hypotheses 3a and 3b). All exogenous variables were grand-mean centered. In all models, we controlled for the nesting of the data (i.e., followers nested within leaders). At Level 1, we included followers' reports of their leaders' extrinsic reappraisal and suppression, follower gender, T1 affect, leader interaction and follower intrinsic suppression and reappraisal as predictors of outcome variable job satisfaction. At Level 2, we included leaders' reports of leaders' extrinsic reappraisal and suppression.

Prior to running the regression models, confirmatory factor analyses (using ML estimation) were conducted to examine the factor structure of the variables. A one-factor model was a bad fit: χ^2 (230) = 3614.824, CFI = .41, RMSEA = .18, SMR = .18 (following

standards from Beauducel & Wittmann, 2005). A 5-factor model (not including the 1-item job satisfaction measure) fit the data reasonably well: χ^2 (221) = 664.52, CFI = .92, RMSEA = .07, SMR = .07. A two-factor model separating leader from follower report-variables did not fit the data well: χ^2 (230) = 2595.15, CFI = .60, RMSEA = .15, SMR = .14, and neither did a 4-factor model where the extrinsic regulation strategies were combined as one factor: χ^2 (225) = 894.89, CFI = .89, RMSEA = .08, SMR = .08.

4. Results

Table 1 shows the reliability and descriptive statistics. All variables showed adequate levels of reliability, with Cronbach's alpha estimates ranging from .71 to .95. The intra-class coefficient (ICC (1,k)) for the four exogenous variables was above 0.10 in all cases, indicating that at least 10% of the variation can be attributed to leader-level effects. With 54 clusters, the design effect is overall greater than 2, indicating that clustering by leader needs to be taken into account during estimation to avoid Type I errors (e.g., Musca et al., 2011; Muthén & Satorra, 1995).

Table 1

Descriptive Statistics, Reliabilities and Correlations Among Study Variables at Individual Level

Variables	*M*	*SD*	α	ICC	3	4	5	6	7	8	9	10	11	12	13	14
Leader-Rated																
1. Extrinsic Reappraisal (T1)	4.96	0.82	.91	-	.32*	.25	-.11	-.06	-.09	.36	.21	.07	.13	-.17	-.07	.10
2. Extrinsic Suppression (T1)	3.79	1.39	.71	-	.13	.37*	-.05	-.12	-.10	.15	-.01	.13	-.26	-.14	-.21	.14
Follower-Rated																
3. Extrinsic Reappraisal (T1)	5.08	1.08	.95	.32	-	.64**	.51	.53*	.35	-.10	.59**	-.15	-.01	-.04	.49**	.20
4. Extrinsic Suppression (T1)	4.28	1.49	.84	.22	.42**	-	.17	.38	.53*	.14	.29	.10	-.01	-.08	.45*	.26
5. Coping with Change (T1)	3.60	0.68	.82	.15	.34**	.25**	-	.65*	.34	-.21	.79	-.24	.09	.44	.31	-.06
6. Intrinsic Reappraisal (T1)	4.16	0.75	.89	.21	.47**	.26**	.41**	-	.84**	-.36	.41	-.40	.22	.31	.26	.15
7. Intrinsic Suppression (T1)	3.82	0.86	.84	.20	.39**	.41**	.40**	.71**	-	-.06	.16	-.11	.11	.15	.29	.24
8. Negative Affect (T1)	2.31	0.88	.89	.17	-.09	.09	-.05	-.13*	.02	-	-.22	.26	.04	-.24	.12	.23
9. Positive Affect (T1)	3.54	0.74	.83	.15	.42**	.15**	.49**	.41**	.34**	-.07	-	-.43	-.10	.14	.20	.23
10. Negative Affect (T2)	1.95	0.75	.84	.20	-.03	.07	.05	-.04	.06	.28**	-.04	-	-.17	-.60	.26	-.23
11. Positive Affect (T2)	2.96	0.81	.73	.11	.25**	.03	.08	.23**	.10	-.03	.23**	-.04	-	.71	-.10	-.20
12. Job Satisfaction (T2)	4.09	1.17	-	.23	.27**	.07	.05	.16**	.11	-.16*	.16*	-.35**	.40**	-	-.13	-.33
13. Follower Gender	-	-	-	.39	.01	-.11**	-.06	-.10*	-.12*	-.18**	-.12**	-.08	-.06	-.01	-	.06
14. Leader Interaction	4.74	1.28	-	.19	.22*	-.05	.10	.04	.04	-.09	.13	.00	.15*	.10	-.01	-

Note. Level 1, below diagonal, $N = 337 – 413$; Level 2, above diagonal, $N = 54$; Gender coded as 1 = male, 2 = female; correlation leader reappraisal and suppression = .15;

* $p < 0.05$; ** $p < 0.01$.

Table 2

Path Coefficients from Multi-Level Path Analyses Predicting Job Satisfaction (Model 1, 2, 3)

	Model 1 Job Satisfaction			Job Satisfaction			Model 2 NA (T2)			PA (T2)		
Variables	*Est.*	*Post. SD*	95% C.I.	*Est.*	*Post. SD*	95% C.I.	*Est.*	*Post. SD*	95% C.I.	*Est.*	*Post. SD*	95% C.I.
Within-level												
Follower Gender	-.05	.07	[-.18 ; .08]	-0.03	0.05	[-.35 ; .22]	-	-		-	-	
Leader Interaction	.02	.06	[-.11 ; .14]	-0.03	0.05	[-.12 ; .06]	-	-		-	-	
Intrinsic Reappraisal	.11	.10	[-.08 ; .32]	-0.03	0.05	[-.30 ; .20]	-0.09	0.07		0.21**	0.08	
Intrinsic Suppression	-.08	.10	[-.27 ; .11]	0.05	0.08	[-.11 ; .25]	0.09	0.09		-0.11	0.08	
Extrinsic Reappraisal (FR)	.29**	.08	[.13 ; .46]	0.15**	0.07	[.00 ; .30]	-0.10	0.07	[-.17 ; .01]	0.16**	0.06	[.08 ; .24]
Extrinsic Suppression (FR)	-.03	.08	[-.19 ; .13]	-0.02	0.07	[-.09 ; .07]	0.13*	0.07	[.02 ; .14]	-0.11	0.08	[-.09 ; .06]
Negative Affect (T1)	-	-		-0.07	0.06	[-.25 ; .07]	-	-		-	-	
Positive Affect (T1)	-	-		0.01	0.06	[-.14 ; .16]	-	-		-	-	
Negative Affect (T2)	-	-		-0.35**	0.05	[-.72; -.33]	-	-		-	-	
Positive Affect (T2)	-	-		0.44**	0.05	[.48 ; .76]	-	-		-	-	
Between-level												
Extrinsic Reappraisal (LR)	-.22	.20	[-.58 ; .18]	-0.20	0.22	[-.26 ; .08]	-	-		-	-	
Extrinsic Suppression (LR)	-.21	.18	[-.56 ; .15]	-0.05	0.20	[-.11 ; .08]	-	-		-	-	
R^2 Level 1	.12**	.04		0.42**	0.05		0.04**	0.02		0.07**	0.03	
R^2 Level 2	.15**	.12		0.10	0.11		-	-		-	-	

Table 2

Path Coefficients from Multi-Level Path Analyses Predicting Job Satisfaction (Model 1, 2, 3)

	Model 3								
	Job Satisfaction			NA (T2)			PA (T2)		
Variables	*Est.*	*Post. SD*	95% C.I.	*Est.*	*Post. SD*	95% C.I.	*Est.*	*Post. SD*	95% C.I.
Within-level									
Follower Gender	-0.02	0.05	[-.13 ; .08]	-	-		-	-	
Leader Interaction	0.02	0.05	[-.11 ; .09]	-	-		-	-	
Intrinsic Reappraisal	-0.03	0.08	[-.20 ; .14]	-0.09	0.09	[-.26; .08]	0.21**	0.09	[.03; .36]
Intrinsic Suppression	0.04	0.08	[-.12 ; .19]	0.04	0.09	[-.08; .26]	-0.11	0.08	[-.28; .06]
Extrinsic Reappraisal (FR)	0.20**	0.07	[.06 ; .33]	-0.10	0.07	[-.23; .03]	0.16**	0.07	[.03; .29]
Extrinsic Suppression (FR)	0.03	0.07	[-.10 ; .17]	0.14*	0.07	[.01; .26]	-0.03	0.07	[-.15; .10]
Coping w/Change	-0.01	0.06	[-.13 ; .11]	-	-		-	-	
Cope*Extr Reapp	0.22**	0.06	[.11 ; .35]	-	-		-	-	
Cope *Extr Supp	-0.13*	0.06	[-.25; -.02]	-	-		-	-	
NA (T1)	-0.06	0.06	[-.17 ; .05]	-	-		-	-	
PA (T1)	0.00	0.06	[-.11 ; .13]	-	-		-	-	
NA (T2)	-0.34**	0.05	[-.44; -.23]	-	-		-	-	
PA (T2)	0.42**	0.05	[.32 ; .51]	-	-		-	-	
Between-level									
Extrinsic Reappraisal (LR)	-0.17	0.21	[-.58 ; .24]				-	-	
Extrinsic Suppression (LR)	-0.11	0.20	[-.51 ; .26]	-	-		-	-	
R^2 Level 1	0.47**	0.05	[.37 ; .56]	0.04**	0.02	[.01; .08]	0.07**	0.03	[.03; .12]
R^2 Level 2	0.10**	0.11	[.00 ; .34]	-	-		-	-	

Note. N = 337 (T2) – 402 (T1; n = 11 missing at Level 1). Est. = estimate; Post. SD = posterior standard deviation; C.I. = confidence interval. FR = follower-reported (leader extrinsic reappraisal and suppression reported by followers); LR = leader-reported; NA = negative affect; PA = positive affect. Estimates are unstandardized.

* $p < 0.05$; ** $p < 0.01$.

Table 3

Indirect Effects of Extrinsic Regulation (level 1) on Job Satisfaction (model 2)

	Job Satisfaction			
	Extrinsic Reappraisal		Extrinsic Suppression	
Effect	*Est. (post. SD)*	*95% C.I.*	*Est. (post. SD)*	*95% C.I.*
Total effect	.26** (.08)	[.10 ; .43]	-.06 (.06)	[-.17 ; .06]
Total indirect effect	.11** (.04)	[.03 ; .18]	-.05 (.03)	[-.10; -.01]
Indirect effect (through Negative Affect)	.04 (.03)	[-.01 ; .09]	-.04* (.02)	[-.08; -.00]
Indirect effect (through Positive Affect)	.07* (.03)	[.01 ; .13]	-.01 (.02)	[-.05 ; .03]

Note. N = 337 - 402. Est. = estimate; Post. SD = posterior standard deviation; C.I. = confidence interval. Estimates are unstandardized.

* $p < 0.05$; ** $p < 0.01$.

Table 2 shows the unstandardized path coefficients and the Level 1 and 2 R^2 values for Model 1 (extrinsic reappraisal and suppression predicting job satisfaction), Model 2 (adding positive and negative affect as mediators) and Model 3 (adding coping with change as a moderator; see Appendix B). At level 1, followers' perception of leader extrinsic reappraisal significantly predicted job satisfaction ($\gamma = 0.29$, $p < .001$), but followers' perception of leader extrinsic suppression did not ($\gamma = -.03$, $p = .36$), providing support for Hypothesis 1a but not 1b. At level 2, leaders' report of leader extrinsic regulation did not predict follower job satisfaction for either extrinsic reappraisal ($\gamma = -0.22$, $p = .20$) or extrinsic suppression ($\gamma = -0.21$, $p = .14$).

Hypotheses 2a and 2b (significant indirect effects of leader intrinsic reappraisal and suppression on job satisfaction through positive and negative affect) were tested with a model where the two regulation strategies predicted job satisfaction, mediated by T2 affect and controlling for both T1 affect and intrinsic emotion regulation. Results are shown in Table 3. In partial support of Hypothesis 2a, there was a significant indirect effect of reappraisal on job satisfaction through positive affect (indirect effect = .07, $p = .01$), but not through negative affect (indirect effect = .04, $p = .07$). Reappraisal significantly predicted greater T2 positive affect ($\gamma = 0.16$, $p = .01$) which significantly predicted greater job satisfaction ($\gamma = 0.44$, $p < .001$). In partial support of Hypothesis 2b, there was a significant indirect effect of suppression on job satisfaction through negative affect (indirect effect = -.04, $p = .02$), but not through positive affect (indirect effect = -.01, $p = .35$). Suppression significantly predicted greater T2 negative affect ($\gamma = 0.14$, $p = .02$), which significantly predicted lower job satisfaction ($\gamma = -0.35$, $p < .001$).

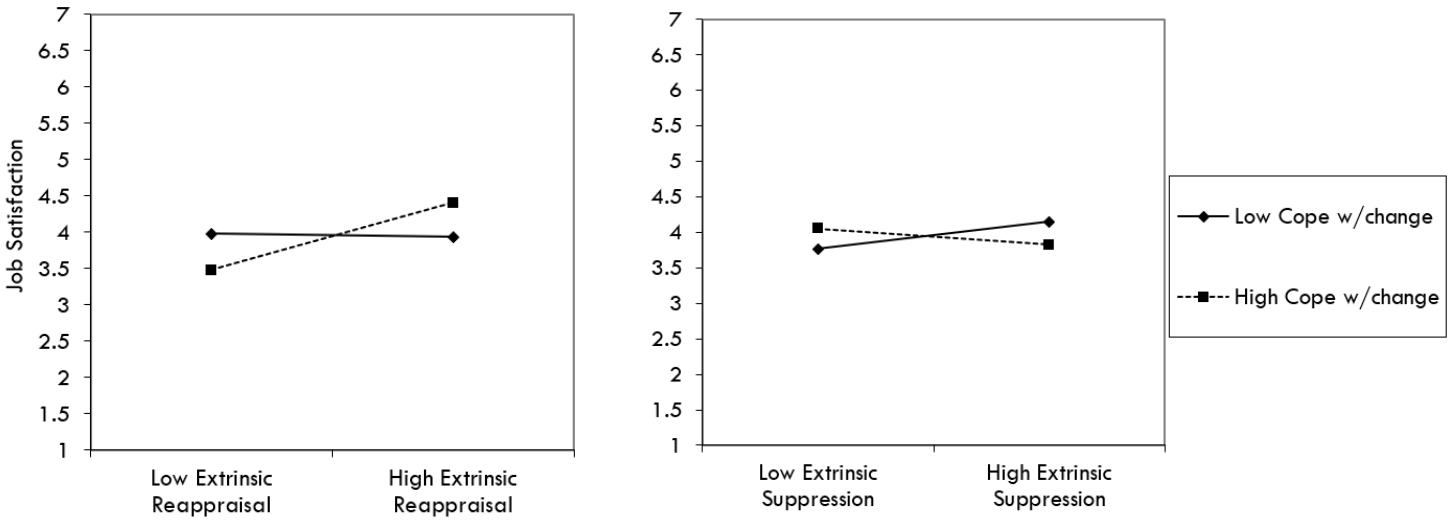
Finally, coping with change was added to the model as a moderator. Coping with change significantly moderated the extrinsic reappraisal/job satisfaction relationship, as

shown by the significant moderation term ($\gamma = 0.22$, $p < .001$; see Appendix B Figure 1). Coping with change also significantly moderated extrinsic suppression/job satisfaction relationship, as shown by the significant moderation term ($\gamma = -.13$, $p = .01$). Simple slope analyses were conducted to investigate the effect of high versus low values of coping with change. Results were in the hypothesized directions for extrinsic reappraisal, where the reappraisal/job satisfaction relationship was stronger at higher levels of coping with change ($\beta = 0.43$, $p < .001$) compared to lower levels of coping with change ($\beta = -0.02$, $p = .88$) (see Figure 2).

Results of the simple slope analyses did not support our hypothesis for extrinsic suppression. Where we expected high levels of coping with change to relate to higher job satisfaction, the opposite was found instead (see Figure 2). The relationship between extrinsic suppression and job satisfaction was in a negative direction for those higher on coping with change ($\beta = -0.08$, $p = .22$), and in a positive direction for those low on coping with change ($\beta = 0.13$, $p = .08$). Although nearing significance, the simple slopes analyses were non-significant. These findings provide support for Hypothesis 3a, but not 3b.

Figure 2

Simple Slope Analyses



Note. Simple slope analyses of moderation coping with change; Lower = *-1SD* (-0.68) versus Higher = *+1SD* (0.68).

5. Discussion

Our study examined the way healthcare leaders regulated their followers' emotions following the first wave of COVID-19, considering both leaders' extrinsic reappraisal of followers' emotions (i.e., helping followers reframe stresses to reduce their emotional impact) and extrinsic suppression (at its most extreme, telling followers to stop crying or whining). Receiving extrinsic reappraisal from leaders was associated with an increase in followers' job satisfaction. The reappraisal—job satisfaction effect was mediated through increased positive affect. Receiving extrinsic suppression from leaders did not directly influence followers' job satisfaction, but did indirectly through negative affect. In summary, the mechanism by which leaders' extrinsic emotion regulation influences followers' job satisfaction, is affect.

Followers' capacity to cope with change moderated the relationship between extrinsic reappraisal and followers' job satisfaction, and this interaction was significant at high (vs. low) levels of ability to cope with changes since the start of the COVID-19 pandemic. This

finding is supported in the literature (e.g., higher ability to cope with change is linked to higher positive affect, higher job satisfaction, and lower burnout; Judge et al., 1999; Srivastava & Agrawal, 2020). When there is high unpredictability and rapid changes to the work environment, processes, and even work design, there is likely to be a concomitant increase of stress, anxiety and depression (Shreffler et al., 2020; Spoorthy et al., 2020), as well as increases in job dissatisfaction (Preti et al., 2020). The ability to cope with change was hypothesized to be an important internal resource in the link between extrinsic emotion regulation received from leaders and follower job satisfaction – amplifying the positive effects of extrinsic reappraisal but protecting from the negative effects of extrinsic suppression. What we found was indeed an amplification of the effect of extrinsic reappraisal on job satisfaction for individuals with the capacity to cope with change. However, where the extrinsic suppression/coping with change interaction did predict job satisfaction, simple slopes analyses of the moderation of extrinsic suppression and job satisfaction were not significant. Conceptualised as a resource, the ability to cope with change was predicted to buffer the negative effect of leader extrinsic suppression. These results provide insights into how the effects of extrinsic emotion regulation strategies are not the same for all followers, suggesting that when individuals are well endowed with the concomitant / aligned resource (in this case capacity to cope with change during a period of massive disruption) they may invest more in the positively framed regulation efforts of their leader, which improves their affective experience at work and their satisfaction with their job. The ability to cope with change however did not act as a buffer of the potential disruptive effects of extrinsic suppression.

5.1. Theoretical Contributions

This research makes important theoretical contributions to the extrinsic emotion regulation literature (following the conceptualization of the Extended Process Model; 2015),

Hobfoll's COR theory (1998; 2011), as well as theory on leadership behavior. The current study extends the application of the Extended Process Model to extrinsic emotion regulation in three ways. First, research on intrinsic emotion regulation has indicated the positive effect of intrinsic reappraisal on satisfaction at work (Kafetsios et al., 2012) and the affect pathway through which this takes place (Brans et al., 2013; Liu et al., 2010). Similarly, intrinsic suppression has been found to lead to higher negative affect (Gross & John, 2003; Brans et al., 2013). Our study extends findings in the intrinsic emotion regulation literature (Gross & John, 2003) to extrinsic (leader-follower) regulation during a time of global organizational change, uncertainty, and stress caused by the COVID-19 pandemic. Our results indicate that leader extrinsic reappraisal and suppression have opposite effects on follower outcomes via a positive affect pathway for reappraisal, and a negative affect pathway for suppression. Building on the Extended Process Model (Gross, 2015), our findings support the assumption that intrinsic and extrinsic emotion regulation function through the same mechanism, that is, the positive and negative affective pathway. These results also support and extend previous findings on the positive influence of extrinsic regulation strategy 'cognitive change' (similar to reappraisal; Little et al., 2012). Where Little et al. (2016) found leaders' efforts to help followers reframe negative emotions increased workers' LMX, and in turn job satisfaction, the current results find both direct and indirect positive effects of leader extrinsic reappraisal on job satisfaction.

Second, our results highlight the importance of considering the perception of the person whose emotions are being regulated. One of the main differences between intrinsic and extrinsic emotion regulation (Nozaki & Mikolajczak, 2020), is that extrinsic regulation takes place through regulatory acts where one individual (the 'actor', in this case, the leader) uses specific strategies to influence the emotions of the other (the 'target' – in this case, the follower) whereas intrinsic regulation only involves one person. Our study included both

leader and follower reports of extrinsic emotion regulation, and found that only the follower reports of leaders' extrinsic reappraisal and suppression significantly influenced followers' affect and in turn, job satisfaction. This largely differentiates intrinsic and extrinsic emotion regulation, and has implications for the measurement and future research on extrinsic emotion regulation. Extrinsic emotion regulation seems to be largely in the eye of the beholder. When collecting dyadic data (including both the actor and the target reports as we did) is not possible, our results suggest that priority should be given to collecting data from the target source.

Third, this is to our knowledge the first time that intrinsic reappraisal and suppression were included in analyses while looking at the effect of extrinsic reappraisal and suppression. We know that individual's intrinsic regulation is an influential driver of affect at work (Lee & Jang, 2019; Liu et al., 2010), as well as work-related outcomes such as job satisfaction (Côté & Morgan, 2002; Wang et al., 2019). When intrinsic regulation is not controlled for when examining extrinsic regulation, we do not know whether regulation conducted by a leader has any additional benefits – or whether it is actually the individual's own regulation that is the main driving force behind positive work outcomes. That is, intrinsic emotion regulation is a crucial potential confounding factor. Our findings show that even though intrinsic emotion regulation influences followers' affect at work, it is leader extrinsic emotion regulation that drives changes in followers' job satisfaction, both directly and indirectly in the case of extrinsic reappraisal, and indirectly through negative affect in the case of extrinsic suppression. This finding helps solidify previous findings on the effects of extrinsic emotion regulation on work-related outcomes where intrinsic regulation was not included as control (e.g., Holman & Niven, 2019; Vasquez et al., 2020) and highlights the importance of examining extrinsic emotion regulation at work.

This study contributes to Hobfoll's COR theory (1998, 2011), extending it's application to extrinsic emotion regulation. COR theory argues that resources exist within individuals, as well as in the social environment. This can be both a good and a bad thing, as the social environment can both induce, but also block resources (Hobfoll, 2018). Even social support – typically seen as a powerful external resource - can, at times, be unhelpful or make situations worse (Beehr et al. 2003; 2010; Deelstra et al. 2003). Providing a novel appliction of COR theory, we extend this notion to extrinsic emotion regulation. We hypothesized that when followers manage their own emotions, this is a resource-intensive (depleting) activity. In contrast, when salient individuals like leaders regulate followers' emotions, this can have more resource-infusing (replenishing) effects as the expanding of resources is done by someone else, leading to stronger effects even when individuals regulate their own emotions. This is especially relevant considering the context of the pandemic, as we know that the demand for leaders to manage followers' emotions is particularly enhanced during times of rapid change, high uncertainty and distress (Birkeland et al., 2017). Our results suggest that extrinsic regulation received from leaders can be both a powerful and positive driver of resources when reappraisal is used, but can also have a potential negative influence when suppression is used. As extrinsic emotion regulation received from leaders more effectively influenced followers' resource dynamics (depletion/replenishment) than followers' intrinsic regulation in terms of influencing their job satisfaction, these findings support the notion of the powerful position team leaders hold in regards to follower affective state and satisfaction in times of distress (Sy et al., 2005).

This study also contributes more broadly to the literature on leader behavior. Although there is ample evidence linking job satisfaction to positive styles of leadership (such as transformational, authentic, and empowering leadership) and negative styles of leadership (such as controlled, autocratic, abusive leadership; for reviews, see Skakon et al., 2010;

Arnold, 2017), there have been repeated calls to expand the knowledge base on more specific, targeted leadership behaviors and strategies to enable more actionable guidance and practical recommendations to motivate and retain employees (Wang et al., 2020). This study addresses this call by investigating the specific strategies and behaviors that leaders use to influence followers' emotions (Nozaki & Mikolajczak, 2020) and the effect this has on follower job satisfaction. Our results indicate that leaders play an additionally influential role in shaping employee job satisfaction – not just through their affective presence (i.e. emotional contagion; Barsade & Gibson, 2012) or individual traits (i.e. emotional intelligence; Miao et al., 2016), but through their use of specific extrinsic regulatory strategies during social interactions with their followers. To date, the strong influence of employees' intrinsic emotion regulation on their job satisfaction (Côté & Morgan, 2002) is an established finding, making its inclusion as a prime focus in employee resilience training (Grabbe et al., 2021) not surprising. Our findings highlight the importance of extending research on leader behavior as well as employee interventions to the fairly nascent field of extrinsic emotion regulation – a call that has been made in reviews and conceptual papers (Nozaki & Mikolajczak, 2020; Troth et al., 2018). The finding that leader extrinsic reappraisal during times of distress can help maintain or improve job satisfaction stimulates further avenues for future research on leader extrinsic regulation, and can help inform leaders, workplace guidelines and interventions of an important, easily accessible way of resource infusion at work.

5.2 Managerial Implications

This study has important practical and managerial implications. Decades of research have shown the importance of job satisfaction to a range of critical outcomes for organizations, such as productivity, safety, quality of patient care, absenteeism, turnover, and employee well-being (Harter et al., 2002; Irvine & Evans, 1995; Judge et al, 2017; Modaresnezhad et al., 2021; Scanlan & Still, 2019). As job satisfaction is an affective

phenomenon, it develops more quickly and is more malleable than for example job commitment, which evolves more slowly (Judge et al, 2017; Porter et al., 1974). This makes the maintenance or improvement of healthcare workers' job satisfaction a critical focus for leaders, particularly in stressful, challenging contexts. Organizational change during the period of the COVID-19 pandemic was particularly challenging, as it had unexpected and transformational effects on the work healthcare workers did, and the experiences they had in their jobs (Nemțeanu et al., 2022). A major conclusion from this research is that leader's extrinsic regulation efforts are effective in improving follower job satisfaction even when followers' own intrinsic regulation efforts are taken into account. Our findings provide specific strategies for management and leadership to implement; leaders can positively influence their followers' emotions by helping them see their situation in a new way, by discussing other ways of interpreting the situation or events, and by helping followers to change the way they think about their problems.

Extrinsic regulation (specifically reappraisal) is an important, easily accesible route of resource infusion (following COR theory) to enhance followers satisfaction during times where other effective leader behavior, like improving the work environment (Tsai, 2011), is not possible (e.g., during a worldwide pandemic, or in the midst of mergers or other organisational change). Our findings support the idea that leaders can help employees to broaden and build their personal resources, through enhanced positive affect (Fredrickson & Joiner, 2018), during times of high work-stress. As current research and healthcare frontline interventions focus on improving employee resilience, intrinsic emotion regulation, and coping strategies (Luu et al., 2021; Grabbe et al., 2021), the evidence base for the role and influence of leader behavior to improve followers affective state is largely neglected. The use of specific strategies such as leaders' efforts to support followers by reappraising their situation, could be integrated into wide reaching health professional training such as the

leadership development series offered by Health Education and Training in Australia (HETI; NSW Government, 2023).

Conceptualizing coping with change as a personal resource (Hobfoll, 2002), our results suggest that attempts by leaders to help regulate followers' emotions through extrinsic reappraisal is a resource-infusing action, improving followers' job satisfaction. However, engaging in the leaders' effort to suppress emotions after an event (which is detrimental) has resource depleting effects. Extrinsic suppression was found to increase followers' negative affect. Perhaps, as followers are encouraged to hide their distress, the concealment of negative emotions from others may further reduce followers' resources as they are less likely to be offered support or help by others (i.e. similar to the importance of received social support among healthcare workers during the pandemic; Labrague, 2021). Because of the differential effects of extrinsic reappraisal versus suppression, it is important for leaders to be aware of the regulation strategies they use when interacting with their followers – something that goes beyond their general emotional intelligence, emotional contagion and offering broad social support. The implications are clear—it is not just what followers do to manage their own emotions at work, but how leaders interact with them, that critically underpins workers' emotional states and job satisfaction.

Our results distinguish between followers' perceptions of what leaders have done (their experience of being regulated), and leaders' own reports of what they do. There is a clear indication that what is perceived (the followers' perspective) has stronger effects than what leaders report. While there are methodological considerations that may explain these findings (such as lower power to detect an effect as there are fewer leaders and mono-method effects of same-source data; Donaldson & Grant-Vallone, 2002) it is likely that followers' perceptions of the interactions are more important than leader perceptions of their behavior. The practical ramification for healthcare leaders who are managing the emotions of their

employees during a time of crisis and uncertainty is that it is essential to regularly check in on how their followers perceive their directions and communications, as the difference between a leader saying “It will all be fine, no need to be stressed” and a follower hearing “Don’t show your emotions to me or others, I don’t want to see them” can be largely in the eye of the beholder.

5.3. Limitations, Future Research Directions and Conclusion

Several limitations of our study should be acknowledged. First, our study design incorporated only two timepoints. Although additional timepoints would provide a more robust study design, the time-sensitivity of the pandemic and the high burden on healthcare workers did not allow this. Future research could include multiple follow-up surveys or experimental designs. Relatedly, we also did not measure job satisfaction at both time points. This meant that we were not able to control for baseline levels of job satisfaction in our study. Finally, as our study took place in one hospital in China, findings may not be generalizable to different hospitals or different cultural settings. However, as COVID-19 offered a unique opportunity to investigate the influence of leader behavior following a global stress-inducing event for workers and healthcare employees alike, involving increased workloads, health risks, and uncertainty, we consider these results important and relevant. Extension of these findings in different settings is warranted. Finally, our findings suggest that following COR theory, leaders infuse resources through extrinsic emotion regulation. The current study did not examine leaders’ work outcomes following the regulation of followers’ emotions. Future research is needed to examine the consequences of the (potentially resource depleting) use of extrinsic regulation strategies for the leaders themselves.

In the aftermath of a global pandemic, preventing healthcare workers’ turnover and protecting front-line workers job satisfaction is more important than ever – and management plays a crucial role. Our results indicate that positive emotions can help build and sustain

employees' job satisfaction, and even the 'little' things leaders do such as their attempts to regulate the emotions of followers can make a big difference in alleviating or worsening their followers' affective experience and job satisfaction. By informing leaders of the influence and mechanism of extrinsic emotion regulation, leaders can more effectively support their followers in an effort to create a healthy and sustainable workforce.

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Appendix A

Surveys

Followers Survey

Emotion Regulation Questionnaire (ERQ; Gross & John, 2003: average Cronbach alpha of .79 for reappraisal and .73 for suppression)

The following questions ask about <u>your feelings</u> at work. Since the corona virus outbreak, to what extent do you agree with the following:

1. When I wanted to feel more positive emotion (such as joy or amusement) at work, I changed what I was thinking about
2. I kept my emotions to myself at work
3. When I wanted to feel less negative emotion (such as sadness or anger) at work, I changed what I was thinking about
4. When I was feeling positive emotions at work, I was careful not to express them
5. When I was faced with a stressful situation at work, I made myself think about it in a way that helped me stay calm
6. I controlled my emotions at work by not expressing them
7. When I wanted to feel more positive emotion at work, I changed the way I was thinking about the situation
8. I controlled my emotions at work by changing the way I thought about the situation I was in
9. When I was feeling negative emotions at work, I made sure not to express them
10. When I wanted to feel less negative emotion at work, I changed the way I was thinking about the situation

Regulating Others' Emotions Scale (ROES; MacCann et al., 2018; Xiao et al., 2022: average Cronbach alpha of .81 for extrinsic reappraisal and .82 for extrinsic suppression)

The following questions ask about your interactions with <u>your team leader</u>. Since the corona virus outbreak, to what extent do you agree that <u>your team leader</u> did the following things to make you feel better at work:

1. My team leader helped me see events in a new way
2. My team leader discussed other ways that I could interpret events
3. My team leader discussed different ways of interpreting the situation
4. My team leader helped me to change the way I thought about my problems
5. My team leader asked me to stop expressing my emotions
6. My team leader encouraged me to hide how I was feeling

Coping with Change (Judge et al. 1999: Cronbach alpha of .77)

To what extent do you agree or disagree with the following statements?

1. When dramatic changes happen in this hospital, I feel I can handle them with ease
2. Rapid change is something to adapt to, but not to embrace
3. I see the rapid changes that are occurring in this hospital as opening up new career opportunities for me
4. Deep changes ultimately better the hospital
5. I often find myself leading change efforts in this hospital
6. I think I cope with change better than most of those with whom I work

Positive and Negative Affect (PANAS-SF; Watson & Clark, 1994; Thompson, 2007) Cronbach alpha's for source paper are .86 for Positive Affect and .87 for Negative Affect. Cronbach alpha's for short form are .78 for Positive Affect and .76 for Negative Affect (Thompson, 2007).

Please indicate the extent you have felt this way at work:

1. Nervous
2. Enthusiastic
3. Relaxed
4. Ashamed
5. Proud
6. Disappointed
7. Distressed
8. Happiness
9. Irritated
10. Grateful

Job Satisfaction (Kunin, 1955)

Since the corona virus outbreak, which face best describes your attitude towards your job?

Leaders Survey

Regulating Others' Emotions Scale (ROES; MacCann et al., 2018: average Cronbach alpha of .81 for extrinsic reappraisal and .82 for extrinsic suppression)

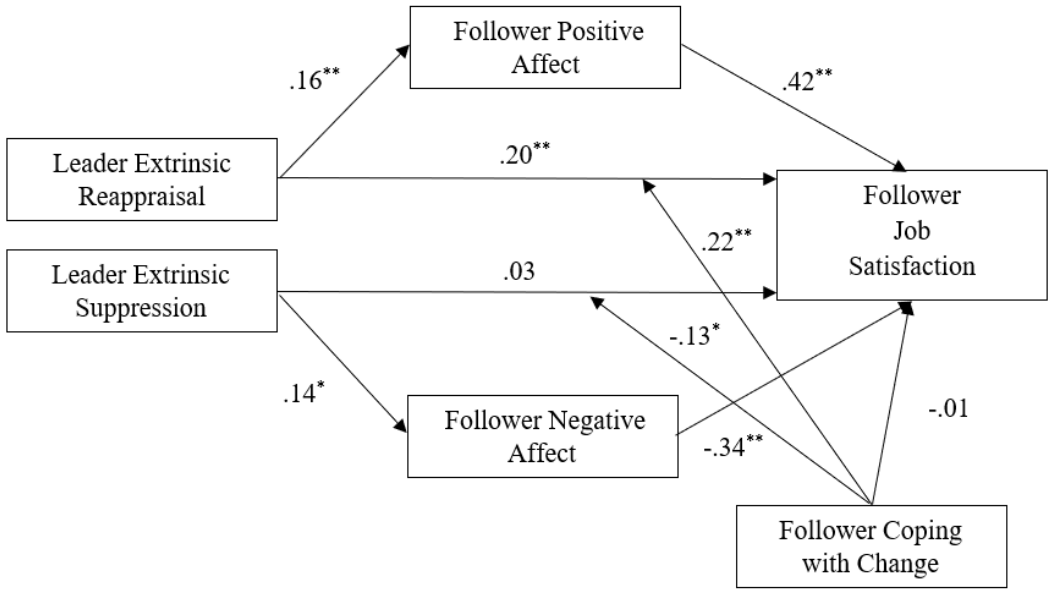
The following questions ask about your interactions with <u>your team members</u>. Since the corona virus outbreak, to what extent do you agree that you did the following things to mal your followers feel better at work:

1. I helped them see events in a new way
2. I discussed other ways that they could interpret events
3. I discussed different ways of interpreting the situation
4. I helped them to change the way they thought about their problems
5. I asked them to stop expressing their emotions
6. I encouraged them to hide how they are feeling

Appendix B

Figure 1

Path Model 3



Note. Path Model 3 of leader extrinsic reappraisal and suppression on follower job satisfaction.

Estimates are unstandardized.

Chapter 5. Discussion and Conclusion

The thesis examines the phenomenon of extrinsic emotion regulation and addresses three main research questions. The first research question is *who regulates others' emotions* – the personality traits and other psychological characteristics associated with engaging in extrinsic emotion regulation (RQ1). The second question is *why people regulate others' emotions* – the regulation goals people form, and the influence these goals have on the selection and outcome of the use of extrinsic emotion regulation strategies (RQ2). The third question asks *what are the outcomes of regulating others' emotions at work* (RQ3). I investigated these three questions across five empirical studies.

I addressed RQ1 in Paper 1 by conducting two empirical studies: Study 1, a meta-analysis; and Study 2, a 7-day daily diary study. In Paper 2, I conducted Studies 3 and 4 to investigate all three RQs. Specifically, in Study 3 I used a matched dyadic co-worker design to investigate extrinsic emotion regulation at work, testing which regulation goals predicted which regulation strategies, and the effect of different strategy use on co-worker ratings of team-member exchange and relationship conflict. Study 4 tested the causal direction from goals to outcomes, in an online experimental manipulation. In Paper 3, I conducted my fifth and final empirical study (Study 5) to investigate the effect of different regulation strategies in the context of healthcare leaders and team members on team members' job satisfaction.

5.1. Summary of Key Findings

5.1.1. Who regulate others' emotions?

The last decade has seen a rapid increase in research interest on extrinsic emotion regulation (e.g., Cohen & Arbel, 2020; Nozaki & Mikolajczak, 2022; Tanna & MacCann, 2022), with a growing interest in personality as a predictor of extrinsic emotion regulation. In Study 1, I wanted to integrate these findings for the first time in a meta-analysis, thus

providing a clearer and synthesized overview of the relationship between different personality traits and individuals' tendencies to engage in extrinsic emotion regulation. I made a distinction between attempts to make others feel better (extrinsic affect improving) and to make others feel worse (extrinsic affect worsening). Additionally, to build on this knowledge, I wanted to examine not just whether personality traits influence our decision to engage in global (affect improving or worsening) extrinsic emotion regulation, but also whether they influence *how* we regulate others' emotions – specifically, which extrinsic emotion regulation strategies we use. To do so, I supplemented the meta-analysis with a 7-day daily diary study (Study 2).

The results of Studies 1 and 2 indicate that extrinsic emotion regulation identification (the decision to engage in 'affect improving' and 'affect worsening') more strongly relates to 'pro-social' and 'anti-social' personality traits (honesty-humility, agreeableness, emotional intelligence and Dark Triad traits). On the other hand, extrinsic strategy selection in daily life showed strong relations with the 'emotional' traits of neuroticism and extraversion. While this might look like a distinction between methods (a meta-analysis and daily diary study), it more likely reflects a distinction between the regulation stages, where the formation of regulation goals (the identification stage) and the choice of strategies (the selection stage) relate to different personality traits. As a starting point, the results of Studies 1 and 2 suggest which personality domains are involved at which stages of the Extended Process Model (Gross, 2015).

To further extend knowledge on the research question of 'who' regulates others' emotions in terms of individual differences, I also examined the role of individual resources, in this case, whether the capacity to cope with ongoing changes during the COVID-19 pandemic at work ("coping with change") influenced the effect of extrinsic emotion regulation (Study 5). Given that I was completing my PhD during the pandemic, this was a

particularly salient and pertinent individual difference factor to examine. Results showed that healthcare employees who had greater ability to cope with change in the hospital were more able to engage with the extrinsic emotion regulation efforts of their leaders. Specifically, they had the resource capacity to invest in the positively framed regulation efforts of their leader (extrinsic emotion regulation strategy 'reappraisal'), which improved their affective experience at work, and in turn their job satisfaction.

In summary, the thesis research confirms the important role that personality traits and other individual difference variables play in the process of extrinsic emotion regulation (Gross, 2015). Personality traits, broadly capturing *who we are,* influence whether individuals engage in extrinsic emotion regulation, and which strategies individuals select. Other individual differences, such as the capacity to cope with change, also influence the extent to which these emotion regulation strategies have their intended effect on the person being regulated (the target).

5.1.2. Why do we regulate other's emotions?

As part of my second research question, I aimed to investigate *why* we regulate others' emotions at work, operationalized as the goals we have when we regulate emotions, and when we select the specific extrinsic emotion regulation strategies we will use. Using a matched dyadic co-worker study design (Study 3), participants reported which strategies they used and which regulation goals they had for each co-worker they nominated. I examined two broad 'categories' of goals in this study: pro-hedonic goals, defined as regulating a co-worker's emotions to make them feel better; and instrumental goals, defined as regulating a co-worker's emotions to get work done, to avoid conflict, or to keep up appearances. Study 3 results indicated that when employees wanted their co-worker to feel better (a pro-hedonic goal), they were more likely to use strategies sch as reappraisal, receptive listening, and distraction, and less suppression. When employees had instrumental goals (including pro-

social, impression management and task goals), they were more likely to use suppression and less receptive listening.

To strengthen causal claims, I conducted an experiment to manipulate regulation goals (Study 4). When participants had pro-hedonic goals, they reported using significantly more receptive listening compared to the other two (instrumental) goals. Comparing the two instrumental goals, participants selected distraction more when they wanted to avoid conflict in comparison to the goal of wanting to get work done. Combined, the results of Studies 3 and 4 provide several important insights on the reasons *why* we regulate other people's emotions and how this influences the strategies we use to regulate others' emotions. Interestingly, participants reported multiple goals guided their choice of regulation strategies, even though all participants were only instructed to consider a single goal. This suggests that when we regulate others' emotions, we may have more than one goal in mind. As I examined extrinsic emotion regulations that aim to make others feel better, it is not surprising that pro-hedonic goals appeared in the instrumental conditions. The overlap or coexistence of regulation goals is hard to disentangle, and more research is warranted.

5.1.3. What is the outcome of regulating others' emotions?

Finally, to examine my third research question on whether regulating others' emotions influences important interpersonal and intrapersonal work outcomes, I examined the influence of extrinsic emotion regulation amongst co-workers (Study 3) as well as in leader–follower dyads (Study 5). In Study 3, I examined two key relational outcomes, team-member exchange (TMX; the perceived quality of the work relationship) and relationship conflict (conflict based on interpersonal differences). I found that when employees used receptive listening, their co-workers perceived lower relationship conflict. However, when employees used expressive suppression to regulate their co-workers' emotions, their co-workers perceived higher relationship conflict, and lower team-member exchange.

I also examined the influence of healthcare leaders' use of extrinsic emotion regulation on followers' job satisfaction in a hospital in China (Study 5). Findings from this study indicated that when leaders used extrinsic reappraisal to regulate their followers, followers experienced higher job satisfaction two months later. On the other hand, when leaders used extrinsic suppression to regulate their followers, followers experienced lower job satisfaction. The extrinsic regulation–job satisfaction relationship was mediated through affect, where extrinsic suppression lowered job satisfaction through an increase in negative affect at work, and reappraisal increased job satisfaction through an increase in positive affect. I examined the leader–follower interactions following the first wave of the COVID-19 pandemic in July 2020, with the results highlighting the effectiveness of extrinsic reappraisal during times of high stress and unprecedented organizational change.

The finding that leader extrinsic regulation influenced followers' job satisfaction is especially important, because I controlled for the influence of followers' intrinsic emotion regulation (their efforts to regulate their own emotions), highlighting that it is not just what we do ourselves, but also what others do to regulate our emotions, that drives workplace affective experiences. I only found positive effects on job satisfaction for followers' reports of leaders' extrinsic regulation, but not leaders' reports of how they were regulating their followers – contrary to the findings in Study 3. In Study 3, I found significant relationships between the actor's report of extrinsic emotion regulation, and the target's experience of team-member exchange and relationship conflict. This is likely due to a lack of power to detect effects, as I collected data from 54 leaders in Study 5 compared to 208 employees in Study 3.

Overall, results of Studies 3 and 5 indicate that extrinsic emotion regulation is an important driver of both target-focused and relationship-focused outcomes, across different work relationships (i.e., co-workers and leader–follower dyads). These results, as well as the

results from Studies 1 to 4, have important theoretical contributions and practical implications, which I will discuss next.

5.2. Theoretical Contributions

My thesis makes several important theoretical contributions. First, I extend the application of Gross's (2015) Extended Process Model to extrinsic emotion regulation. Gross (2015) outlined that the Extended Process Model applies to both intrinsic and extrinsic regulation, but that more work is needed to clarify whether findings on intrinsic emotion regulation extend to the process of extrinsic emotion regulation. Research on intrinsic emotion regulation has indicated that specific regulation strategies influence work and wellbeing outcomes. For example, intrinsic reappraisal has been found to increase job satisfaction (Kafetsios et al., 2012), whereas intrinsic suppression has been found to increase the experience of negative affect (Brans et al., 2013; Gross & John, 2003). The effect of intrinsic emotion regulation on outcomes such as job satisfaction (Liu et al., 2010), work engagement (Castellano et al., 2019) and burnout (Lee & Jang, 2019) have furthermore been found to be mediated by affective states.

My thesis extends these findings to extrinsic emotion regulation. The strategies employees and leaders use to regulate co-workers' and followers' emotions can positively influence outcomes such as job satisfaction and conflict in the case of reappraisal and receptive listening, but can also worsen outcomes such as job satisfaction, team-member exchange and relationship conflict in the case of expressive suppression. Importantly, I have provided evidence of the impact of extrinsic emotion regulation on interpersonal outcomes (team-member exchange and conflict), as well as intrapersonal outcomes (job satisfaction) that are critical for supporting effective workplaces. The evidence of the effects of intrinsic emotion regulation is largely focused on effects for the individual (or by extension the organization or service user) rather than the broader social context, hence this is an important

theoretical extension. My findings also support the assumption that intrinsic and extrinsic emotion regulation function through the same mechanism, that is, through a goal-driven and affective pathway. My findings show that, similarly to intrinsic emotion regulation, regulation goals drive the selection of extrinsic emotion regulation strategies. Additionally, my findings show that the reappraisal–job satisfaction relationship is mediated by positive affect, whereas the suppression–job satisfaction relationship is mediated by negative affect.

This thesis also contributes to the wider extrinsic emotion regulation literature. A major finding of my thesis is that leaders' extrinsic regulation of followers' emotions is effective in improving follower job satisfaction even when followers' own intrinsic regulation efforts were controlled for. This is, to my knowledge, the first time intrinsic and extrinsic emotion regulation have been examined in tandem, and highlights the influential role that extrinsic emotion regulation plays at work even when intrinsic emotion regulation is considered.

Finally, this thesis contributes theoretically by integrating multiple theoretical perspectives to extend knowledge on extrinsic emotion regulation. In applying Hobfoll's Conservation of Resources theory (COR; 1989, 2011) to extrinsic emotion regulation, I found that when followers manage their own emotions, this is a resource-intensive (consuming) activity (Study 5). In contrast, when salient individuals like leaders regulate followers' emotions, this has a more resource-infusing (replenishing) effect as the expanding of resources is done by someone else, leading to stronger effects even when individuals regulate their own emotions. I also extended Côté's (2005) social interaction model of emotion regulation by examining the influence of extrinsic emotion regulation on team-member exchange and relationship conflict, in the context of co-workers. Following Côté's (2005) social interaction model, I found that *specific behaviors* (i.e., extrinsic reappraisal, social sharing, distraction and suppression) influence relational dynamics amongst co-workers at

work. The Study 3 findings highlight the importance of considering examining extrinsic emotion regulation as an antecedent and determinant of team-member exchange and relationship conflict. Not surprisingly, it is not just elements of the work environment (like job demands, role ambiguity and working overtime; De Raeve et al., 2008, or autonomy and organizational attitudes; Seers, 1989) but also the use of specific extrinsic emotion regulation strategies during social interactions that drive these outcomes.

5.3. Practical Contributions

The results from my thesis also offer several important practical contributions. First, the results from the five empirical studies suggest that not all extrinsic emotion regulation strategies are equivalent. There are specific strategies that are more effective than others in achieving beneficial outcomes. In the context of leadership, this suggest that leaders can be trained to positively influence their followers' emotions by helping them see their situation in a new way, by discussing other ways of interpreting the situation or events, and by helping followers to change the way they think about their problems. This is an easily accessible route of resource infusion (following COR theory; Hobfoll et al., 2018) to enhance followers' satisfaction during times where other effective leader behavior, like improving the work environment (Tsai, 2011), is not possible. Given the negative outcomes associated with extrinsic suppression, leaders should avoid engaging in extrinsic suppression, as this increases followers' negative affect at work, and in turn lowers job satisfaction. Because of the differential effects of extrinsic reappraisal versus suppression, it is important for leaders to be aware and mindful of the regulation strategies they use when interacting with their followers, going beyond their general emotional intelligence, emotional contagion and offering broad social support (Nozaki & Mikolajczak, 2020).

Second, an important practical implication stems from my finding that pro-hedonic goals are key drivers of employees' engagement in the strategy of receptive listening to

regulate co-workers' emotions. This is a valuable insight for managers as the use of extrinsic emotion regulation strategies has an impact on important relational outcomes, such as team-member exchange and relationship conflict. If employees can be encouraged and trained to focus on the improvement of their co-workers' emotions (as an important means to creating and maintaining harmonious relationships at work), a pro-hedonic goal rather than instrumental goals, employees are more likely to engage in receptive listening instead of suppression, in turn lowering conflict and enhancing team-member exchange. As co-worker relationships impact the broader social and relational fabric and many fundamental issues of organizations (Zarankin & Kunkel, 2019), a practical understanding of specific extrinsic emotion regulation strategies, and what drives the use of these strategies, is an accessible and important focus for workplace training and interventions.

5.4. Current Limitations and Future Research

There are several limitations beyond those already mentioned in each of the three papers. First, there are some challenges with the generalizability of the findings given that the studies were conducted in specific samples and contexts. For example, Study 5 examined the influence of extrinsic emotion regulation in leader–follower dyads, and was conducted in a hospital in China. As such, these findings may not generalize to different hospitals or different cultural settings. Although I was planning to conduct a study in the Australian healthcare sector to provide a different cultural context, due to the timing and impact of the COVID-19 pandemic, this was not feasible. In Study 2 I used an Australian student sample, supplemented with a large group of their nominated co-workers, working primarily in education, administration, hospitality and marketing. As the majority of participants (the regulation actors) were students who worked part-time only, they likely identified more with being a student (i.e., considering student life and future employability) rather than as an employee at the organization where they work part-time. I acknowledge this does limit the

generalizability of the findings of Study 2. Future research should examine the influence of extrinsic emotion regulation in a range of different cultural settings and in more diverse samples of occupations and work status.

Next, although the empirical studies in this thesis were novel and rigorous, the examination of extrinsic emotion regulation is highly complex due to the involvement of two individuals. Throughout this thesis, the dynamic of extrinsic emotion regulation was operationalized through an 'actor' (the person doing the regulation) and a 'target' (the person whose emotions were being regulated). However, it is possible that within one social interaction, the role of actor and target is not fixed. This means that, while one individual may start as the regulator, a switch may take place in who is doing the regulation, where the actor becomes the target. Additionally, it is likely that specific combinations or sequences of extrinsic regulation strategies are more effective than others, or than relying on one extrinsic emotion regulation strategy alone. The potential change in the actor–target dynamic and the combination and sequencing of strategies were not considered in this thesis, but are important considerations for future research.

Finally, an individual's delayed recall of emotion-related phenomena such as extrinsic emotion regulation has been found to differ from the reports of strategies people use in daily life due to memory bias, heuristics-based responding, as well as confounding emotional states, goals and strategies that people recall using (Koval et al., 2023). The use of intensive longitudinal analysis designs, such as experience sampling and daily diary designs, can help avoid this bias which is why I chose a daily diary design in Study 2. However, the daily diary study only included actor reports of extrinsic regulation, but not target reports. Therefore, it was not possible to validate the actors' report with the targets' reports of the emotion regulation interactions that took place, contrary to Studies 3 and 5, where both actor and target reports were measured. This is important, as individual views and experiences of

extrinsic emotion regulation have been found to differ (Walker et al., 2023). Ideally, research on extrinsic emotion regulation should be conducted using intensive longitudinal designs, paired with a dyadic approach, examining both actor and target reports of the same interactions, as close as possible in time to the event. This is a highly complex and ambitious study design, which was beyond the scope of this thesis. However, future research should validate the findings of this thesis using intensive longitudinal, dyadic designs.

5.5. Concluding Remarks

In the aftermath of a global pandemic, issues relating to employees' mental health, turnover, protecting employees' job satisfaction and maintaining healthy and supportive workplaces are more important than ever. Extrinsic emotion regulation is an easily accessible and effective way to do just that. Fundamental to this thesis is the key insight that the 'little' things we do at work, such as helping another worker to see their situation in a more positive light, or offering a listening ear, can make a big difference. This finding applies to leaders interacting with followers, as well as employees interacting with their co-workers. When leaders and co-workers have the capacity to engage in effective extrinsic emotion regulation at work, workplace relationships are more likely to flourish, and workers feel more positive about their job. By informing employers and employees of the mechanisms and influence of extrinsic emotion regulation, individuals can learn how to effectively support the people they work with, in an effort to minimize the development of socially unhealthy workplaces. Together, starting with how we interact with each other at work and the quality of the relationships we build, we can build and maintain a healthy and sustainable workforce.

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