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The Role of Decentering in Coping with Interpersonal and Romantic Relationship Stress and Relationship Wellbeing

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STATEMENT OF ORIGINALITY

This work has not been submitted previously for a degree or diploma in any university. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

Narelle Susan Duncan

May 2024

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ABSTRACT

Transactional theories of stress and coping (e.g., Lazarus & Folkman, 1984, 1987) outline how individuals appraise the significance of stressful events in relation to their goals and the context; with appraisals proximally linked to ways of coping with stress and, in turn, wellbeing outcomes. Yet, appraisals and subsequent coping responses are known to show individual differences and these differences have been found, in some literatures, to be influenced by metacognitive processes, sometimes referred to as *decentering*. Decentering has been defined as the ability to shift perspective and step outside of one's own mental events (i.e., conscious cognitive function). As illustrated in this definition; decentering involves the capacity to reflect on, critique, evaluate, and refine personal judgements, and these metacognitive processes can shape individual differences within individuals' stress appraisals and coping deployment across the stress-coping-adjustment process. Accordingly, the main purpose of this thesis was to test whether decentering metacognitive processes are uniquely associated with stress responding related to couple (romantic relationship) stressors and relationship wellbeing through the conduction of three empirical studies. After focusing on the measurement of decentering in Study 1, Studies 2 and 3 concentrated on stress within romantic relationships and drew upon stress-coping theory and the decentering metacognitive processes model to address how decentering and ways of coping with romantic relationship stress interrelate and uniquely relate to relationship wellbeing. Across the studies, multiple methods were used, including surveys and observation, collecting data from individuals (Studies 1 and 2) and couples (Study 3).

More specifically, Study 1 had two parts (1a and 1b) and concentrated on the interrelationships and validity of measures identified to tap the three metacognitive processes of decentering (i.e., meta-awareness, disidentification from internal experience,

and reduced reactivity to thought content) that had been previously identified in the metacognitive processes model of decentering (Bernstein et al., 2015). In Study 1a, exploratory factor analysis was used to identify the factor structure of items on pre-existing measures selected to represent the 3-factor model of decentering. Using confirmatory factor analysis, Study 1b confirmed the 3-factor decentering model, and examined unique and differential associations of each factor with coping appraisals (i.e., general coping self-efficacy and flexibility), interpersonal stress perception and specific ways of coping with interpersonal stressors (i.e., engagement and disengagement coping) among 442 older adolescent and young adult participants. Overall, Study 1 found empirical support for a 3-factor multidimensional operationalisation of decentering, alongside revealing differential associations with greater coping efficacy and more flexible and adaptive stress responding.

Building on the findings of Study 1, Study 2 aimed to determine if each decentering factor was uniquely correlated with ways of coping with stressors within the context of romantic couple relationships and romantic relationship wellbeing. Study 2 participants were 357 young adults who were in steady romantic relationships (i.e., 2 – 5 year duration). Participants completed a survey to report the three metacognitive processes of decentering (supported in Study 1), coping self-efficacy, engagement and disengagement ways of coping with romantic relationships stressors (e.g., conflict), and their relationship wellbeing (relationship conflict, conflict resolution, relationship satisfaction). Results revealed that young adults who reported more decentering (at least one process) also reported better relationship wellbeing (i.e., less conflict and higher resolution and satisfaction), more positive coping (higher engagement and lower disengagement), and higher coping self-efficacy. Two metacognitive processes of decentering, meta-awareness and regulated reactivity to thought content, were indirectly associated with greater relationship wellbeing by way of less disengagement coping. Overall, decentering processes of meta-awareness and regulated reactivity to thought content had unique positive associations with better relationship wellbeing directly and indirectly via less disengagement coping, even after adjusting for the strong associations between metacognitive processes of decentering and coping self-efficacy.

Finally, Study 3 extended the findings of Study 2 by considering both actor-partner effects of decentering on ways of coping with romantic relationship stress, observed perspective-taking during a conflict task, and relationship wellbeing. Young adult romantic couples (*N* = 75) with a relationship length of 2 to 5 years (*M* = 35.35 months, *SD* = 12.12 months) completed surveys and participated in a conflict discussion task where perspective-taking skills were observed. Six Actor-Partner Interdependence Models (APIM; Cook & Kenny, 2005) tested actor and partner effects of latent decentering (indicated by the three processes of meta-awareness, observer perspective, and regulated reactivity to thought content) with actors' and their partners' engagement and disengagement ways of coping with romantic relationship stressors, observed perspective-taking, and three measures of relationship wellbeing (conflict, conflict resolution, and satisfaction). Results showed partners had high agreement about their relationship wellbeing. In addition, three actor effects were found across the six APIMs, whereby individuals with higher decentering reported less disengagement coping, less relationship conflict, and more relationship satisfaction. One partner effect was found, whereby one partner's decentering was associated with the other partner's lower reported use of disengagement coping.

Altogether, three general conclusions from these studies are described. First, two commonly used decentering measures were found to be valid and reliable measures for the metacognitive processes of decentering. Namely, the Experiences Questionnaire (Fresco et al., 2007), tapping the metacognitive processes of meta-awareness and observer perspective and the reversed Cognitive Fusion Questionnaire (Gillanders et al., 2014) tapping reduced reactivity to thought content. Second, though decentering metacognitive processes are associated with more efficacy, flexibility, and constructive coping responses to interpersonal stress, these three metacognitive processes of decentering differed in their associations. Taking an observer perspective was strongly associated with trait level coping flexibility and efficacy as well as more constructive engagement coping, whereas the capacity to be meta-aware and regulate reactivity to thought content was strongly associated with less reactivity to interpersonal stress and less reliance on maladaptive coping responses (e.g., disengagement coping). Moreover, decentering was linked to greater relationship wellbeing via ways of coping. Specifically, meta-awareness and regulated reactivity to thought content, were indirectly associated with greater relationship wellbeing by way of less disengagement coping. Third, decentering appears to be an important skill for young adult couples when coping with interpersonal and romantic stress.

Yet, further research is needed to examine the interplay of decentering metacognitive processes with ways of coping and romantic conflict, while simultaneously considering these linkages within and across varying individual, developmental, and cultural intersections. Theoretical and practical implications are discussed, along with recommendations for future research. Taken together, the current research identifies multiple interpersonal and intrapersonal risk and protective factors that are relevant for understanding increases in relationship wellbeing during young adulthood. Furthermore, these factors could be examined further as potential targets or avenues for intervention to help young adults cope with interpersonal stressors in relationship conflict.

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STATEMENT OF ETHICAL PROTOCOL

I confirm that the Griffith University Human Research Ethics Committee (GU ethics reference number: 2019/178; 2020/055) granted approval for these studies. Further, research from this thesis was supported by an Australian Government Research Training Programme Stipend Scholarship and an Australian Research Council Discovery Grant (DP190101170) awarded to Professor Melanie Zimmer-Gembeck. I also confirm that the research was conducted in accordance with the approved protocols.

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LIST OF OUTPUTS PRODUCED DURING THE PhD CANDIATURE: PUBLISHED OR PREPARED

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Presenter: **Duncan, N. S**. Co-authors, Zimmer-Gembeck, M. J. & Gardner, A. A. (April 2023). More Relationship Satisfaction and Less Conflict: Associations of Decentering via Ways of Coping with Romantic Relationship Stress. Poster accepted for presentation at the meeting of the Society for Research in Adolescence, San Diego, California, USA.

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Included in this thesis is a paper in Chapter 7 that was co-authored with other researchers. My contribution to the co-authored paper is outlined at the front of the relevant chapter. The bibliographic details/status for these papers including all authors, are:

Chapter 7: consists of a co-authored paper that has been published. As per Cambridge University Press copyright guidelines, Chapter 7 consists of a post peer-review, pre-copy edit version of an article published in *Personality and Individual Differences*. The citation details are provided below:

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CHAPTER 1

General Introduction and Overview

How individuals interpret or react to a stressful event can often have a more powerful impact on their ongoing distress, their social relationships, and their wellbeing than the objective features of the event itself. In their seminal work proposing the transactional model of stress and coping, Lazarus and Folkman (1984) described this phenomenon and how individuals appraise the significance of stressful events as a transactional process impacting specific ways of coping and subsequent emotional and interpersonal wellbeing. One key process of this model, which aligns with other stress and coping frameworks describing the transactional process between the individual and their environment (Falconier & Kuhn, 2019; Fletcher & Sarkar, 2013; Skinner & Zimmer-Gembeck, 2007, 2023; Zimmer-Gembeck & Skinner, 2011, 2023), is how individual differences in personality traits and cognitive skills can contribute to the entire stress and coping process (Taylor & Stanton, 2007; Zimmer-Gembeck, 2021). Whilst many personality traits have been studied as related to stress and coping, such as the Big Five personality traits (Afshar et al., 2015; Burgess et al., 2010), Lazarus (1998) emphasised the importance of exploring metacognitive factors that account for individual differences in appraisals and, in turn, ways of coping and emotional or behavioural outcomes from stressful events. Appraisals, and their metacognitive influences, are important because they provide information needed to select adequate, constructive, and adaptive coping responses to maintain motivation, engagement, and wellbeing in the face of stressful events.

Scholars have considered the process of “stepping out” from one’s experience and its importance to behaviour and mental health for decades (James, 1890/2007). As a result, there are numerous conceptualisations of mental phenomenon that involve metacognition or “stepping out” (to varying degrees). One such conceptualisation has been labelled *decentering*, described as the ability to observe one’s thoughts and feelings as temporary, objective events in the mind, as opposed to reflections of the self that are necessarily true, that is “…the reality of the moment is not absolute, immutable, or unalterable…” (Safran & Segal, 1990, p. 117). To address the theory of distinct constructs reflecting the common ability to “step out” from one’s experience, most recently decentering was defined as comprising three interrelated metacognitive processes: 1) meta-awareness, 2) disidentification from internal experience, and 3) reduced reactivity to thought content (Bernstein et al., 2015).

There has been support for the association of decentering with better mental health (see reviews by Bernstein et al., 2015, 2019). For example, extant empirical evidence has shown metacognitive processes of decentering, including meta-awareness, the capacity to take an observer perspective, and reduced reactivity to thought content (measured using a variety of existing measures), are associated with less anxiety, as well as less depression or negative affect (Itzchakov et al., 2018; Kross & Ayduk, 2009; Naragon-Gainey et al., 2023; Pinto-Goveia et al., 2018). In addition, multiple studies identified decentering as a mediator explaining the positive changes in emotional symptoms and other symptoms of psychopathology found from mindfulness or emotion regulation interventions (Hoge et al., 2015; O’Toole et al., 2019; Teasdale et al., 2002). Additionally, decentering constructs have also been found to mediate the relationship between naturally occurring mindfulness practice and wellbeing or life fulfillment (Franquesa et al., 2017; Josefsson et al., 2014; Wang et al., 2023).

One of the reasons that decentering may be a mediator explaining positive outcomes from interventions is because of its role in more constructive coping responses to stressful events, with some emerging empirical evidence providing support for these ideas (for reviews see Bernstein et al., 2015, 2019). For example, the relationship between stress reappraisals and psychopathology was found to be mediated by decentering (Hayes-Skelton & Graham, 2013) and the relationship of decentering with affect or psychopathology symptoms has been found to be mediated through coping (Finkelstein-Fox & Park, 2019; McCracken et al., 2014). In their work, Garland et al. (2015) proposed that all dimensions of decentering are critical for promoting the types of appraisals of stress (e.g., appraising stress as less threatening or more controllable) that yield adaptive ways of coping, such as viewing stressors as challenges that can be actively managed and potentially growth-enhancing.

Yet, despite theory about the role of decentering in stress responding, including emotions, thoughts, and physical responses to perceived stressors, and the research studies that have linked decentering with better mental health in adulthood (for a review Bennett et al., 2021; Bernstein et al., 2015; Teasdale et al., 2002), studies have mainly focused on decentering and its role as a mediator in the relationship of mindfulness interventions with internalising symptoms as outcomes (Garland et al., 2017; Hoge et al., 2015; Josefsson et al., 2014; O'Toole et al., 2019). Until recently, little empirical investigation has focused on developing a reliable measure of decentering or on unpacking its general relationship with stress appraisals, ways of coping with stressors, or mental health symptoms.

Moreover, in the research that has been done on decentering and stress responding, one complication has been the lack of attention to the specific domain of stress. Not identifying the domain of stress leaves open the possibility that stressor differences might be confounded with study findings. An important domain of stress is romantic relationship stress. Romantic relationship stress has been found to be common and can be quite distressing, involving a range of problems from conflict, rejection, and loss (Johnson et al., 2018) to increased risk of mental health disorders such as depression (Kato, 2014; 2022), making it an ideal domain of study to understand the role of decentering in ways of coping and wellbeing.

Whilst there is clearly a need for more research on decentering as related to stress appraisals and coping to guide theory and practice, the advent of the metacognitive processes model of decentering (Bernstein et al., 2015) brought attention back to how to measure it. There has been a plethora of decentering-related constructs (e.g., cognitive defusion, cognitive distancing, meta-awareness, mindfulness, self-distancing) discussed in the extant research, which are accompanied by a variety of measures that appear to capture aspects of decentering or have been used to measure decentering in past research (e.g., for a review Bernstein et al., 2015). This lack of consistency in measurement across studies suggests that there is no consensus on the best approach to measure decentering – either via each process or as a more global metacognitive process. This is a problem for study comparison and meta-analytic reviews. In response to this issue Hanley et al. (2020) developed and tested the Metacognitive Processes of Decentering – Trait (MPoD-t) and State (MPoD-t) scales to measure aspects of decentering identified in the metacognitive processes model of decentering. As such, until recently, there had been a gap in current research in relation to the consistent and reliable measurement of the metacognitive processes model of decentering as well as their related constructs. Because the MPoD-t and MPoD-s scales did not exist when the work for this thesis began, measurement of decentering was a specific focus in the first two studies (i.e., Studies 1a and 1b) and this measurement approach was carried forward into Studies 2 and 3.

Aims of the Current Research

The overarching purpose of this research was to identify a set of scales to use to measure decentering and then to test a decentering model specifically focused on its associations with coping responses to romantic relationship stress during young adulthood both at the individual and dyadic couple level. This model included metacognitive processes and tested their associations with engagement and disengagement ways of coping with romantic relationship stress, which were expected to also explain relationship wellbeing, through direct and indirect associations in Study 2 and across partners in Study 3. Thus, the first two aims of this research were to: 1) determine if measures selected to align with the three elements of the metacognitive processes model of decentering (meta-awareness, disidentification from internal experience, reduced reactivity to thought content; Bernstein et al., 2015) reliably produce a 3-factor structure, and unpack their unique associations with stress and coping processes that align with theory; and 2) test whether metacognitive processes of decentering were direct and indirect correlates (via ways of coping with interpersonal stressors) of romantic relationship wellbeing at the individual level.

In addition to the above two aims, a third and final aim was to explore the actor and partner effects of the metacognitive processes of decentering with ways of coping with romantic relationship stress, perspective-taking, and romantic relationship wellbeing. This involved testing the effect of one partner's decentering ability on their own as well as their partner's ways of coping with romantic relationship stress, perspective-taking, and romantic relationship wellbeing. Consistent with tenets from stress and coping theory (Lazarus & Folkman, 1984) and comprehensive theories of relationship satisfaction and longevity (Gottman et al., 2002), identifying individual abilities that are intrinsic or can be cultivated to promote relationship wellbeing was the focus of the current research. More specifically for example, perspective-taking is an individual skill that has been found to be related to less intense emotional responses to stressful relationship interactions and reductions in conflict (Erle & Topolinski, 2017). To achieve these three aims, three studies were conducted. These studies relied on cross-sectional self-report survey data and observations of young adults (i.e., trained research observers measured communicated perspective-taking in interactions). The order of these studies, and the relevant supporting chapters, are described in detail below.

Overview of the Chapters

Relevant background information for the three studies is detailed in the next four chapters (i.e., Chapters 2-5), followed by a description of the contribution of each study to the overall purpose and aims of the research (Chapter 6). In Chapter 2, the construct of decentering is more fully introduced, along with further description of the metacognitive processes model of decentering and how the processes embedded within this model cut across a variety of decentering related constructs in extant research. In addition, Chapter 2 includes a summary of the primary psychometric instruments developed to measure decentering-related constructs, and this chapter includes a summary of what is known about the interrelations between measures. Following this background material, the measures used to tap processes of decentering in this thesis are described.

In Chapter 3, the focus is on introducing frameworks within stress and coping theory and the measurement of coping with stress. Stress and coping theory, specifically the transactional theory of stress and coping (Lazarus & Folkman, 1984), is drawn upon and discussed as a foundation to this thesis. Coping conceptualisations and their measurement consistent with this framework are explored and defined to support the choice of coping responses that were investigated.

In Chapter 4, the focus is placed on specific descriptions of decentering as related to stress and coping and wellbeing. Studies exploring decentering and ways of appraising and coping with general stress are discussed in addition to providing a description of the ways in which decentering is associated with stress, coping, and general wellbeing. Emerging research on the associations between decentering and interpersonal and romantic relationship stress and coping is introduced and the gap in research concerning the role of decentering in interpersonal and romantic relationship stress, coping, and wellbeing is identified. Next, Chapter 5 expands on Chapter 4, which focused on interrelationships at the individual level, to summarise what is known, and to identify gaps in existing research on decentering, coping with romantic relationship stress, and romantic relationship wellbeing at the couple level.

In Chapter 6, the aims of this thesis and background are briefly summarised to introduce the next three chapters (Chapters 7 to 9), which present three manuscripts containing four studies completed for this thesis. Chapter 7 presents a published manuscript including two studies (Duncan et al., 2021), whereas Chapters 8 and 9 present one study each that have been prepared to submit for publication. Chapter 10, the final chapter, provides a summary of key research findings, discusses both theoretical and practical implications of the findings, and suggests future directions for the continued study of decentering and coping with interpersonal and romantic relationship stress in young adults.

CHAPTER 2

Decentering: Definitions, Theory, and Measurement Tools

Identifying and searching for how metacognitive processes can direct human behaviour, development, and wellbeing have been core to psychological research and practice for more than 50 years (Ingram & Hollon, 1986). In particular, cognitive therapies have long emphasised how poorer metacognitive ability and biased cognitions can co-occur with poor mental health. Accordingly, researchers and practitioners have concentrated on understanding these cognitions to improve therapy and support improvement in health (Ingram & Hollon, 1986, p. 272; Schnakenberg Martin & Lysaker, 2022; Seow et al., 2021).

Such ideas have also led scholars to develop definitions and measures of the fundamental human ability to shift experiential perspective (Baer et al., 2006; Brown & Ryan 2003; Wells 2005; Wells et al., 1998). Understanding this human ability has been important in psychology because shifting perspective can include multiple skills that individuals depend on to understand stressful situations from other positions, while simultaneously considering other beliefs, experiences, and viewpoints as they appraise each situation they encounter and determine the best way of responding, adapting, or coping (Lazarus & Folkman, 1984).

A variety of terms have been used to describe the ability to shift perspective and step outside of one's own mental experiences, with some theorists and mental health practitioners referring to this as *decentering* (refer to Bernstein et al., 2015 for a review). The purpose of this chapter is to briefly introduce these terms before concentrating on decentering and how it has been defined within psychological theory and research. Following which, decentering and decentering-related definitions are presented, measures of decentering-related constructs are listed and described, the theory of their measurement discussed, and a recently developed metacognitive processes model of decentering is introduced.

The Construct of Decentering and Decentering-Related Constructs

Understandably, humans are often immersed in their inner world of thoughts and emotions. As an alternative, older youth and adults usually develop the capacity to shift to a spectator view of their subjective thoughts and emotional experiences. In essence, one can either be immersed in their own perspective or in the emotion of an experience or one can take advantage of the metacognitive ability to become more of an observer of personal thoughts and emotions considering them as one way of understanding or reacting. The latter mental phenomenon has been labelled and defined in the field of psychology under a myriad of seemingly distinct, but probably related, ideas with associated terminology, which all imply the need for advanced cognitive skills to take an observer perspective on the self. As shown in Table 2.1, these terms include, but are not limited to, *cognitive defusion* (Hayes et al., 1999; 2012), *cognitive distancing* (Beck et al., 1979), *decentering* (Bernstein et al., 2015), *detached mindfulness* (Wells, 2005), *metacognitive awareness* (Teasdale et al., 2002), *mindful awareness* or *mindfulness* (e.g., Bishop et al., 2004), *reperceiving* (Shapiro et al., 2006), *self-as-context* (Grieger, 1985; Hayes et al., 1999, 2012), and *self-distanced perspective* (Kross et al., 2005).

Table 2.1 provides a list of decentering-related constructs. As can be seen in this table, definitions for each construct are provided and measures commonly used in research are described.

Table 2.1

Decentering and Decentering-related Constructs, Their Definitions, and Measures

Construct name	Definition	Measures used
Cognitive defusion	A process that reduces the automatic effects of verbal thought content on behaviour “such that other sources of behavioral regulation can better participate in the moment” (Hayes et al., 2012, p. 245).	Drexel Defusion Scale (DDS; Forman et al., 2012); self-report survey; 10 items Cognitive Fusion Questionnaire (CFQ; Gillanders et al., 2014); self-report survey; 7 items.
Cognitive distancing	Distancing the self from one's thoughts, which is conceptualised as central to adaptively reflecting on and engaging with or disputing dysfunctional cognitions (Beck et al., 1979).	Received theoretical attention but no published empirical study and no specific measure of cognitive distancing could be located.
Referred to as decentering, but uses a measure of “observer perspective”	A process through which one is able to step outside of one's immediate experience, thereby changing the very nature of that experience (Safran & Segal, 1990).	Experiences Questionnaire (EQ; Fresco et al., 2007); self-report survey; 10 items Decentering subscale of the Toronto Mindfulness Scale (TMS; Lau et al., 2006); self-report survey; 13 items
Detached mindfulness	Awareness of the automatic and non-volitional ebb and flow of internal events, primarily thoughts. In this state the person is cognitively de-centered, meaning that thoughts are seen as objects in the mind that are separate from reality (Wells, 2005).	Laboratory-based experimental method used to capture the effects of detached mindfulness while thinking about past social experiences (e.g., Wells, 1998).
Metacognitive awareness	A cognitive set whereby negative thoughts and feelings are experienced as mental events, rather than as representative of the self (Teasdale et al., 2001).	Metacognitive Awareness Questionnaire (MAQ; Teasdale et al., 2001); self-report survey; 15 items Measure of Awareness and Coping in Autobiographical Memory (MACAM; Moore et al., 1996); presents eight situations via audiotape and

		asks respondents to imagine themselves in these situations. This is followed by a semi-structured interview and interview content is coded for level of meta-cognitive awareness.
Mindful awareness	Awareness that arises through paying attention, on purpose, in the present moment, non-judgementally (Kabat-Zinn, 1990).	Mindful Attention and Awareness Scale (MAAS; Brown & Ryan, 2003); self-report survey; 15 items
Dispositional (or trait) mindfulness (5 subscales: observing, describing, acting with awareness, nonjudging, nonreactivity)	A form of nonjudgmental and nonreactive awareness of present-moment experiences, including emotions, cognitions, and bodily sensations, as well as external stimuli such as sights, sounds, and smells (Kabat-Zinn, 2005)	Five Facet Mindfulness Questionnaire (Baer et al., 2006); self-report survey; 39 items
Reperceiving	The permission to “dis-identify from thoughts, emotions, and body sensations as they arise, and simply be with them” (Shapiro et al., 2006, p. 378).	Experiences Questionnaire (EQ; Fresco et al., 2007); self-report survey; 10 items
Self-as-context	Reflects disidentification from internal experience (the contents of consciousness), but it is also characterised by a concomitant identification with consciousness or awareness itself (Hayes et al., 2012).	Self-as-Context Scale (SAC; Zettle et al., 2018); self-report survey; 10 items
Self-distanced perspective	The degree to which self-reflection on negative events is adaptive or maladaptive is the degree to which that reflection is characterised by a self-distanced, rather than self-immersed, perspective (Kross & Ayduk, 2009; Kross et al., 2005).	Laboratory-based experimental method used to capture the effects of a self-distanced perspective while thinking about past negative experiences (e.g., Ayduk & Kross, 2010).

Notably, as suggested in Table 2.1, and in theories and associated research, all these terms seem to share conceptual space with each other and, mostly importantly for this thesis, they also share conceptual space with what has been called *decentering* (Ayduk & Kross, 2010; Bernstein et al., 2015; Hanley et al., 2020; Safran & Segal, 1990). Safran and Segal describe decentering as, “a process through which one is able to step outside of one's immediate experience, thereby changing the very nature of that experience” (p. 117). Decentering and all the advanced metacognitive skills listed in Table 2.1 seem to share the common phenomenon of an individual’s ability to distance and thereby disidentify themselves from the contents of their conscious thoughts and emotions (Safran & Segal, 1990). In the current thesis, this collective of terms for these metacognitive skills (or processes) is referred to as *decentering-related constructs* to simplify the text, but this term should not be interpreted as suggesting that all listed constructs have been found to be related in past research.

All decentering-related constructs included in Table 2.1 have been described as capacities that can change or modify the way an individual relates to their own thoughts and feelings (cognitions and affect) by perceiving them as transient or one possible form of a mental event, rather than “true” reflections of the self or the only reality. Thereby, these skills are described as encouraging a sense of self-efficacy over thoughts and feelings (Safran & Segal, 1990). For example, research on the Mindfulness-to-Meaning Theory is relevant to understanding decentering. This theory discusses a temporally dynamic process model of mindful positive emotion regulation that elucidates downstream cognitive-affective mechanisms by which mindfulness promotes health and resilience. In exploring the Mindfulness-to-Meaning Theory in a four-arm randomised controlled trial (RCT) design, Wang et al. (2023) found a direct and positive relationship between decentering (state and trait) with psychological wellbeing during a 3-week mindfulness intervention.

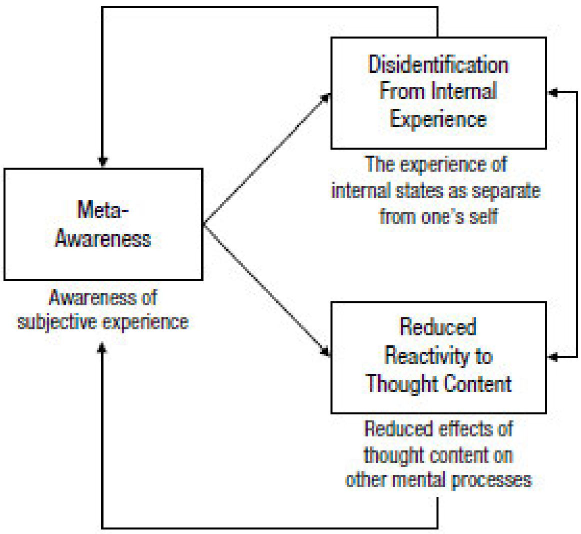
The RCT featured assessments at baseline and post-intervention and the results revealed that an increase in decentering from baseline to post-intervention was associated with more positive wellbeing post-intervention. Furthermore, the relationship between decentering and wellbeing was partially explained by positive reappraisals (i.e., construing a stressful life event as benign or a potential source of personal growth and meaning; Lazarus & Folkman, 1984). Thus, individuals higher in decentering were better able to construe stressors as benign or potentially growth-enhancing, and it was these appraisals that partly accounted for more positive wellbeing. These findings support the notion that decentering is linked to an individual's ability to reflect on, critique, evaluate, and refine their own judgements of their contextual circumstances (Nelson et al., 1999; Rhodes, 2019). Metacognitive processes were argued to decrease the impulse to react to one's internal experience and increase the range and adaptability of responses to them (see also DeMaree et al., 2023; DeMaree & Naragon-Gainey, 20223; Garland et al., 2015; 2017; 2019; Hanley et al., 2021). Altering the relationship of an individual's inner experience from a more subjective to objective perspective during stressful events is considered a way to improve one's capacity to differentiate between actual and personally construed reality (Safran & Segal, 1990; Shapiro et al., 2006; Teasdale et al., 2002). This altering, in turn, has been associated with greater wellbeing (Wang et al., 2023).

Metacognitive Processes Model of Decentering

Decentering-related constructs have drawn a great deal of attention in theory, research, and practice, and the relationship of decentering-related constructs with better mental health has been considered for decades (for a review see Bernstein et al., 2015; 2019). However, a unified conceptualisation of decentering was not introduced until Bernstein et al. (2015) reviewed the evidence that decentering-related constructs reflect multiple interrelated metacognitive abilities and subsequently proposed a metacognitive processes model of decentering. As shown in Figure 2.1, the common mental abilities (or processes) that cut across the decentering-related constructs were categorised into three core mental processes. These processes were labelled 1) meta-awareness, 2) disidentification from internal experience, and 3) reduced reactivity to thought content. These three processes were described as the core decentering-related constructs that underpin metacognitive processes more generally and they, uniquely, and together, can promote more adaptive personal responses to environmental events that support mental health.

Figure 2.1

Metacognitive Processes Model



Note. Reproduced from Bernstein et al. (2015). Decentering and related constructs: A critical review and metacognitive processes model. *Perspectives on Psychological Science, 10*(5), 599-617. https://doi.org/10.1177/1745691615594577

The first process identified as closely connected to decentering, *meta-awareness* (Bernstein et al., 2015), was described as the explicit knowledge of the *process* of consciousness as it unfolds in the present moment (Kabat-Zinn, 1990). This process should be distinguished from awareness, that is the *contents* of thoughts. For example, an individual is aware of the contents of a judgmental thought, ‘I am stupid’, and meta-aware of the process within the judgmental thought, ‘I am thinking a self-critical thought that I am stupid’. In Table 2.1, constructs labelled as metacognitive awareness, mindfulness awareness, and mindfulness more generally, most closely align with this first decentering process of meta-awareness.

The second metacognitive process involved in decentering is *disidentification from internal experience*. Disidentification from internal experiences has been described as a high-level mental construal (Trope & Liberman, 2010). High level construal allows for abstract interpretations promoting awareness to what is consistent (or inconsistent) regarding an experience or object across contexts. In this way, high-level construals or greater psychological distance has been expected to foster the ability to ‘see the forest for the trees’. Linking back to Table 2.1, observer perspective labelled as decentering, reperceiving, self-as-context, and self-distancing have been thought to be most closely tied to the metacognitive process of *disidentification from internal experience.* The combination of noticing thoughts and their processes in the moment (i.e., meta-awareness) with greater psychological distance (i.e., disidentification from internal experience) has been proposed as fostering the subsequent shifting of maladaptive attentional habits to adaptive positive reappraisals, thereby transforming how individuals attend to stressful events (Garland et al., 2015), and in turn, give rise to the third process of decentering, reduced reactivity to thought content.

The third process involved in decentering is *reduced reactivity to thought content*, which has been used to refer to the perceived ability to moderate reactivity to mental processes, such as attention, emotion, cognitive elaboration, motivation, and motor planning (Bernstein et al., 2015). The cultivation of intentional nonjudgmental focus, insight, and modification of maladaptive appraisals has been described as being involved in the extinguishing of habitual negative reactions (Bishop et al., 2004). Researchers have tested these ideas and have shown that aversive thoughts (e.g., “I am stupid”) may not trigger self-focus, rumination, negative feelings, or reactive avoidant behaviour when considered a transitory mental event (Donald et al., 2017; Gillanders et al., 2014). In Table 2.1, constructs labelled as cognitive defusion and cognitive distancing most closely align with this process.

In summary, with the publication of Bernstein et al.’s (2015) metacognitive processes model of decentering, a unified theory of decentering and its core processes were made available to guide future research. In this theory, five decentering-related constructs (i.e., decentering, metacognitive awareness, cognitive distancing, metacognitive mode, and detached mindfulness) were characterised in the three metacognitive processes of their model. Moreover, the decentering-related construct of re-perceiving was characterised by two of the metacognitive processes: meta-awareness and disidentification from internal experience. Furthermore, cognitive defusion was characterised by the model’s reduced reactivity to thought content whilst self-as-context and self-distanced perspective were each characterised only by disidentification from internal experience and mindfulness by meta-awareness. Reviewed literature also provided evidence that meta-awareness elicits disidentification with internal experience as well as reduced reactivity to thought content, whilst disidentification from internal experience elicits reduced reactivity to thought content (Bernstein et al., 2015).

A Summary of Measures of Decentering-related Constructs

As also shown in Table 2.1, research studies that are broadly aligned with the study of decentering have used a variety of measures to capture these constructs. Most of these measures were designed to gather individuals’ reports of their own capacity for decentering or similar decentering-related processes or skills. Self-reports are a useful method to measure decentering due to their ability to easily gather information from a large number of individuals. However, there can also be challenges when using these measures, such as response biases and low face validity for items reflecting metacognitive processes. Overall, a search on decentering-related construct measures located six self-report scales that have been used to measure one of the constructs described in Table 2.1. In addition, one semi-structured interview measure was identified (Moore et al., 1996). These measures are discussed below.

Meta-awareness

Three measures were located that were described as measuring meta-awareness, which is one aspect of the metacognitive processes model of decentering (Bernstein et al., 2015). The first of which was an interview measure, The Measure of Awareness and Coping in Autobiographical Memory (MACAM; Moore et al., 1996), was used in at least two studies (Hargus et al., 2010; Teasdale et al., 2002). This measure is described as measuring metacognitive awareness (i.e., the cognitive set in which negative thoughts and feelings are seen as passing mental events rather than as aspects of self). Descriptions of eight mildly depressing situations are presented to participants by tape recorder, recorded in a flat monotone voice (e.g., “You are out shopping in town at the weekend and you have arranged to meet a friend for a cup of tea in the cafe in a department store. You get there in good time and wait outside. It is very busy and the crowd is spilling out of the door, which makes you feel a bit edgy. You wish your friend would hurry up and arrive. The time you arranged to meet comes and goes. You feel rather slighted that your friend has not made the effort to show up for you and you start to feel a bit low.”). Participants are asked to put themselves into the situations and to feel the feelings described. After each description, participants are asked to recall and briefly describe a specific occasion brought to mind by the feeling elicited by the vignette. After all eight vignettes are presented, the interviewer uses semi-structured interviewing to elicit detailed descriptions of occasions and ask participants to rate the bad feelings at the worst point of each occasion.

The Metacognitive Awareness Questionnaire (MAQ; Teasdale et al., 2001) was the second measure of meta-awareness that was located. The MAQ has been described as measuring meta-awareness to thoughts and feelings when sad or depressed. The 9-item unidimensional MAQ includes items such as, “When I get low, my feelings show things in their true light”. The MAQ was specifically developed for a study with a Cronbach’s α = .71 (Teasdale et al., 2001).

The third measure located was the 15-item Mindful Attention and Awareness Scale (MAAS; Brown & Ryan, 2003), reverse-scored to measure meta-awareness with items such as., “I could be experiencing some emotion and not be conscious of it until sometime later”. The MAAS was described by Brown and Ryan as a reliable (Cronbach’s α = .89) and valid measure, and it was shown to be positively associated with emotional intelligence, mood repair and attention to emotions, openness to experience, attentiveness and receptivity to experience and behaviour, and negatively associated with rumination and anxiety.

Disidentification from Internal Experience (i.e., Observer Perspective)

Three self-report scales were located that were described as measures of disidentification from internal experience or observer perspective, which is the second aspect of the metacognitive processes model of decentering (Bernstein et al., 2015). These three self-report scales included 1) Experiences Questionnaire (EQ; Fresco et al., 2007); 2) Toronto Mindfulness Scale - Decentering subscale (TMS-D; Davis et al., 2009) and 3) Drexel Defusion Scale (DDS; Forman et al., 2012). Of these three measures, the valid and reliable unidimensional Experiences Questionnaire has been most widely used in research spanning cross-sectional (Franquesa et al., 2017; Ünlü Kaynakçı & Yerin Güneri, 2022), experimental (Kaiser et al., 2015; Naragon-Gainey et al., 2023), intervention-based (Gawrysiak et al., 2018; Hayes-Skelton & Marando-Blanck, 2019; Tanay et al., 2012), and longitudinal studies (Kobayashi et al., 2020; Wu et al., 2022). Across this research, the EQ has been described as measuring the ability to observe one's thoughts and feelings as temporary, objective events in the mind, as opposed to reflections of the self that are necessarily true. The EQ includes 10 items, such as, "I can separate myself from my thoughts and feelings". As a reliable (Cronbach's α = .94) and valid measure, the EQ was found to correlate positively with cognitive reappraisal and negatively with depressive rumination, experiential avoidance, emotion suppression, and depression symptoms (Fresco et al., 2007).

The Toronto Mindfulness Scale and/or its subscales has also been used in several studies (Carmody et al., 2008; Kiken et al., 2012; Lau et al., 2006; Strohmaier et al., 2021). This 13-item measure is described as measuring two factors, curiosity and decentering. Curiosity (TMS-C) reflecting awareness of present moment experience with a quality of curiosity, and decentering (TMS-D) reflecting awareness of one's experience with some distance and disidentification rather than being carried away by one's thoughts and feelings. Of particular interest to this thesis, the 8-item TMS-D included items such as, "I experienced myself as separate from my changing thoughts and feelings". The TMS-D is a reliable (Cronbach's α =.87) and valid measure having found to correlate positively with absorption, openness to experience, reflective self-awareness, awareness of one's surroundings, and psychological mindedness. The TMS-D was significantly negatively correlated to cognitive failures and was found to predict lower perceived stress and psychiatric symptoms post compared to pre-mindfulness-based intervention for individuals experiencing a wide variety of physical and psychological difficulty (e.g., stress, anxiety, depression, chronic pain, diabetes, multiple sclerosis, cancer malignancies).

The Drexel Defusion Scale has been described as a unidimensional scale measuring the ability to achieve psychological distance from internal experiences such as thoughts and feelings. The DDS includes 10 items, such as "Feelings of anger: You become angry when someone takes your place in a long line. To what extent would you normally be able to defuse from feelings of anger?". It is a reliable (Cronbach's α =.83) and valid measure of defusion, which has been shown to have positive correlations with acceptance and decentering (i.e., observer perspective) and psychological functioning (i.e., happiness, quality of life, life satisfaction) and negative correlations with measures of depressive and anxiety symptoms.

Reduced Reactivity to Thought Content

The Cognitive Fusion Questionnaire (CFQ; Gillanders et al., 2014) has been used most frequently to measure reduced reactivity to thought content. The 7-item unidimensional CFQ includes items such as, "My thoughts cause me distress or emotional pain". Scores are reversed with higher scores reflecting higher cognitive defusion. Gillanders et al. described the CFQ as a reliable (e.g., Cronbach's α =.88) and valid measure which has been positively associated with psychological flexibility, mindfulness, quality of life, and life satisfaction and negatively associated with rumination, distress, burnout, frequency of automatic thoughts, and psychopathology (i.e., anxiety, depression).

Associations between Measures of Decentering-related Constructs

Given the utilisation of a variety of scales to measure decentering-related constructs, there appeared to be an absence of agreement by researchers on the most valid and reliable way to define and capture individual differences in decentering. Moreover, there had been little research on the relationships between the measures used to capture decentering-related constructs. One study that did examine the convergent validity of their new measure, the Drexel Defusion Scale (Forman et al., 2012), reported a correlation of $r = .43$ between defusion and observer perspective as measured by the Experiences Questionnaire (EQ; Fresco et al., 2007).

Other research has also explored the relationships, factor structure, and validity of decentering and decentering-related construct measures, such as cognitive defusion (i.e., reduced reactivity to thought content) and observer perspective. One such study investigated the interrelations, finding weak to strong associations ($r = .10$ to $.63$) between measures and two related factors across measure items, namely ‘observer perspective’ and ‘reduced struggle with inner experience’ (Naragon-Gainey & DeMarree, 2017). Interestingly, Naragon-Gainey and DeMarree recommended using multiple measures to assess the full breath of decentering and defusion, arguing that no one measure provides good coverage of both observer perspective and reduced struggle with inner experience. They recommended the Experiences Questionnaire as the best measure of one’s perspective toward thoughts and feelings, whereas the Cognitive Fusion Questionnaire was described as providing good coverage of the extent to which one struggles with these experiences. Additionally, one other study examined associations (.25 - .40) and the factor structure between decentering-related constructs measures (i.e., Experiences Questionnaire, Toronto Mindfulness Scale-Decentering Subscale, Drexel Defusion Scale, Cognitive Fusion Questionnaire, Metacognitive Awareness Questionnaire) and found two common factors across measures, namely ‘intentional decentered perspective’ and ‘automatic reactivity to thought content’ (Hadash et al., 2017). Across both these factor analysis studies, only the Cognitive Fusion Questionnaire items were retained for the second factor (i.e., reduced struggle with inner experience or automatic reactivity to thought content), whilst the first factor was either made up of the Experiences

Questionnaire items (Naragon-Gainey & De-Maree, 2017) or the Drexel Defusion Scale items (Hadash et al., 2017). These studies suggest that either the Experiences Questionnaire or Drexel Defusion Scale can be used to measure the metacognitive processes model component of ‘disidentification of internal experience’ (Bernstein et al., 2015) and the Cognitive Fusion Scale (reversed) can be used to measure ‘reduced reactivity to thought content’. Whilst these studies advanced decentering research by identifying two underlying metacognitive processes across decentering-related constructs, they also highlighted the absence of a common measure for the metacognitive processes model component of ‘meta-awareness’.

Selecting Measures to Capture the Three Metacognitive Processes

Although there is emerging conceptual research evidence that supports the Metacognitive Processes Model of Decentering by identifying how the awareness of mental events without veridicality and the shift in attentional focus and broadened perspectives are associated with reduced reactivity to aversive thoughts and experiences (Wang et al., 2023), there remains a lack of consensus on the measurement of decentering. Furthermore, there is limited research on the interrelations between different measures used to capture decentering-related constructs. To address this gap, one aim of this thesis (see Study 1 in Chapter 7) was to explore the underlying factor structure of commonly used measures of decentering, and then to consider the relations of the emerged factors with each other and their subsequent associations with individuals’ wellbeing.

The identification of measures to include within the current thesis was founded on a consideration of all decentering-related constructs and their measures (see Table 2.1) and the results of two studies (Hadash et al., 2017; Naragon-Gainey & DeMaree, 2017). These two studies gave support for how to measure two of the factors that aligned to the metacognitive processes model of decentering, namely disidentification from internal experience (referred to as *observer perspective* in Study 1, Chapter 7) and reduced reactivity to thought content (referred to as *regulated reactivity to thought content* in Study 1, Chapter 7). More specifically, Naragon-Gainey and DeMaree (2017) examined five self-report measures to measure observer perspective (Experiences Questionnaire, Toronto Mindfulness Decentering Sub-scale, Drexel Defusion Scale) and reduced struggle (Cognitive Fusion Questionnaire and Believability of Anxious Feelings and Thoughts) across three studies of students and one study of individuals recruited from a clinical setting. Across these studies, measures were only weakly to modestly associated with each other, with *r*s ranging from .20 to .63. Additionally, Hadash et al. (2017) found measures of cognitive defusion were moderately associated with reduced reactivity to thought content, *r*s ranged from .25 to .40. These results provide initial evidence of how the components of the metacognitive processes model of decentering interrelate, but also that measuring them separately may be needed to cover the complexity of decentering as a metacognitive process.

Therefore, the self-report measures used to measure the metacognitive processes model of decentering in this thesis were, 1) the 15-item Mindful Attention and Awareness Scale (MAAS; Brown & Ryan, 2003; Cronbach's α = .87) for measuring the decentering process of *meta-awareness*, 2) the 10-item Experiences Questionnaire (EQ; Fresco et al., 2007; Cronbach's α = .94) for measuring the decentering process of *disidentification from internal experiences*, and 3) the 7-item Cognitive Fusion Questionnaire (CFQ; Gillanders et al., 2014; Cronbach's α =.88) for measuring the decentering process of *reduced reactivity to thought content*.

At the same time that the surveys for this thesis were in the field, a Metacognitive Processes of Decentering Scale (MPoD) was published and described as a multidimensional instrument capable of measuring decentering as operationally defined by the metacognitive processes model of decentering (Hanley et al., 2020). In their research they tested both a trait (MPoD-t) and state (MPoD-s) version of the MPoD and found MPOD-t was related to three of four scales, including Experiences Questionnaire, Toronto Mindfulness Scale-Decentering, and Self Experiences Questionnaire, that had previously been used to measure decentering (*r*s ranged from .62 to .74). Whilst this study provides preliminary evidence of convergent validity, no research could be located that had further explored the convergence of the MPoD-t or the MPoD-s with other decentering or decenter-related construct measures.

Summary of Chapter 2 and Introduction to Chapter 3

Given the recent developments in the conceptualisation of decentering (Bernstein et al., 2015; 2019) and its more recent operational advancement (Hanley et al., 2020), research on decentering and mental health continues to evolve and provide novel and preliminary findings. These findings prompt further investigation into the associations between the metacognitive processes of decentering and psychological wellbeing. Future research is needed to build on, and help integrate, the decades of research already conducted on decentering as a personal resource for healthy functioning. In an effort to better elucidate decentering as a resource that aids more adaptive stress responding and improved mental health, the next chapter, Chapter 3, discusses stress and coping theory, coping conceptualisations, and ways of coping measurement as a noteworthy influence.

CHAPTER 3

Stress-Coping Theory and Conceptualisations and Measurement of Coping

The purpose of this chapter is to first discuss the impact of stress on the global population including a brief introduction on how stress and coping has been studied followed by a discussion on the transactional theory of stress and coping of Lazarus and Folkman, (1984), coping strategies, and related measurement tools.

The Experience of Stress

In 2018, 35% of adults from 142 countries (approximately 1,000 adults aged 15+ per country) reported experiencing distress (i.e., worry, stress, physical pain, sadness, anger) the day before being polled (Gallup, 2018). This was an all-time high since the survey began in 2006. In the USA, chronic stress has been described as a national epidemic with 45% of 3,458 surveyed adults (18+) reporting they lay awake at night due to stress primarily worrying about finances and health (American Psychological Association [APA], 2018). More concerning, in 2023 almost half of Americans surveyed (49%) reported experiencing stress frequently, up 16 points over the past two decades and the highest in Gallup's trend to date (Gallup, 2023). Australians also report distress over similar topics. For example, across the years of 2011 to 2015, an increase in levels of stress and anxiety was found among adults (18+), which was predominantly triggered from financial, health, and family issues (Murray & Littlefield, 2015). More recently, since the coronavirus (COVID-19) pandemic, individuals' day-to-day lives have been adversely impacted by psychological burdens related to the pandemic (Prati & Mancini, 2021; Nikopoulou et al, 2022) with their effects being more pronounced, widespread, and longer-lasting than the somatic effect of the infection itself (Taylor, 2022). This widespread human response to challenging or threatening situations, which are called stressful events here, can sometimes be a motivator for task completion but more often seem to interfere with daily life performance (Averill et al., 2018). Adverse effects of stressful events can include a broad array of ailments (see review Cooper & Quick, 2017) such as physical symptoms (e.g., headaches, muscle tension, stomach upsets, fatigue, sleep problems, chest pain), mood disturbances (e.g., anxiety, irritability, anger, depression) and behaviour changes (e.g., over or undereating, drug and alcohol misuse, social withdrawal). Despite many years of study on coping with stress and resilience (e.g., Falconier & Kuhn, 2019; Fletcher & Sarkar, 2013; Skinner & Zimmer-Gembeck, 2016), the increasing perception of high levels of both daily and major stressful life events suggest that it is more important than ever to conduct research to identify individual factors amenable to intervention and change and can facilitate better adaptation when facing what seems to be an increasing level of stressful life events across much of the world.

Stress and coping theories can provide a foundation for understanding how stress occurs and when it may be more strongly associated with acute or chronic mental health problems. Historically, stress and coping theories took root in psychology in the 1960s and have developed throughout the following decades to encompass a variety of perspectives and dimensions (Zaumseil, 2014; Zimmer-Gembeck & Skinner, 2023). For example, at the individual level, transactional models of stress and coping have described stress-coping processes that focus on the role of stress appraisals (Lazarus, 1966; Lazarus & Folkman, 1984), meaning-making (Park, 2010), religious beliefs (Pargament & Cummings, 2010), future management or proactive coping (Aspinwall & Taylor, 1997), and post-traumatic growth, development or learning that follow from encounters and coping with stressors (Bonanno, 2004; Skinner & Zimmer-Gembeck, 2016, 2023). Additionally, theories have addressed the relevance of coping at the dyadic (Bodenmann, 1997), social (Hobfoll, 2011), and collective levels (Norris et al., 2008) of society for adaptation to stress. In this thesis, one of the most influential adult-focused psychological stress and coping models, namely the transactional theory of stress and coping (Lazarus & Folkman, 1984; 1987), was drawn upon to consider how decentering, which includes a set of metacognitive processes that are likely to be important to stress appraisals, may be central to coping responses and personal functioning.

The Transactional Theory of Stress and Coping

In Lazarus and Folkman's (1987) transactional theory of stress and coping, individuals' appraisals of stressful events take a central role. When internal or external events occur in adulthood, these are deemed to be stressful when an individual appraises the event as relevant to wellbeing or potentially taxing or exceeding available resources (Lazarus & Folkman, 1986, p. 63). Moreover, a person appraises the significance of a stressful event in relation to their wellbeing, their goals, and its context. At a more global level, such appraisal processes can result in the stressor being appraised as a threat, a loss, or a challenge. In general, appraisal systems supply a holistic running verdict about the meaning of incoming experiences as (current or impending) threats and challenges relevant to the self's goals and preferences (Lazarus & Folkman, 1985). Thus, appraisals can more simply be described as having two general forms – primary and secondary (Lazarus & Folkman, 1984). Primary appraisal reflects an individual's assessment of the event's significance as a threat, loss, or challenge. Secondary appraisal reflects an individual's assessment of the internal resources available to cope with the event (Lazarus & Folkman, 1984). Together, these appraisals are closely linked to emotional reactions that emerge as feelings of distress, such as sadness, fear, or anger (Compas et al., 2014).

Appraisals of the stressful event are thought to be the direct drivers of coping responses, which can then be followed by reappraisal processes. Coping responses involve "cognitive and behavioural efforts to master, tolerate, or reduce external or internal demands and conflicts among them" (Folkman & Lazarus, 1980, p. 223). Additionally, given that stress appraisals and emotional reactions to stressful events often run in parallel and interrelate with each other, emotional reactions can also be predictive of ways of coping and reappraisals over time. Thus, more maladaptive coping efforts are expected to occur when a stressor is appraised as exceeding one's resources, posing a significant threat to wellbeing or goal attainment exhibited by highly negatively valenced and strong emotions (Keeports & Pittman, 2017; Zimmer-Gembeck & Skinner, 2015). When events are initially appraised as highly threatening this can predict ongoing negative emotions and defeat-related behaviour, such as freezing, avoidance posture, and less positive affect (Crum et al., 2017; Mendes et al., 2007). Conversely, when an individual appraises that they have adequate resources to meet or exceed the stressor demands, stressful events are more likely to be appraised as a challenge (rather than a threat), emotional reactions may be less extreme and coping may be more effective in alleviating remaining distress and changing stressful circumstances (for a review see Hase et al., 2019). Research has shown that appraising a stressful event as a challenge is associated with a perception of the event as more controllable, with less negative affective responding, and greater feelings of coping self-efficacy (Delahaij & Van Dam, 2017; DeMaree et al., 2020).

Reappraisals are also important to coping and eventual personal adjustment to, and eventual learning from, stressful events. Whilst many stressful experiences may be appraised as highly threatening initially, with time, perspective-taking and attentional shifting, or with access to more helpful coping strategies, the stressor may be reappraised as less threatening or more of a challenge. Such metacognitive processes therefore may have consequent positive effects on emotion, physiology, and behaviour throughout the stress-coping-adjustment process. Thus, reappraisal can be an essential adaptive process through which stressful experiences are reconstructed as less threatening, more challenging, more benign, more meaningful, or even more growth promoting (Lazarus &

Folkman, 1984). An individual’s increased capacity for reappraisal of stressful events as less threatening or more benign has been associated with reductions in distress and more positive mental health outcomes (Hanley et al., 2014).

Coping Conceptualisations

As described above, coping responses (or *ways of coping*) have been defined as the “cognitive and behavioural efforts to master, tolerate, or reduce external or internal demands and conflicts among them” (Folkman & Lazarus, 1980, p. 223). Coping responses have also been described as the thoughts and behaviours summoned to manage internal and external stressful situations (Folkman & Moskowitz, 2004). Furthermore, coping responses have been conceptualised as intentional and conscious responses to stress (e.g., Compas et al., 2001), intentional, conscious or unconscious responses to stress (e.g., Lazarus and Folkman, 1984), and as intentional or automatised responses to stress (e.g., Skinner & Wellborn, 2019). Thus, a wide variety of coping responses or ways of coping have been studied, with little consensus on what to measure or the classification of strategies (Skinner et al., 2003). However, it has been common to identity categories that collapse together multiple ways of coping based on their higher order purpose of function. One categorisation has demarcated approach from avoidance ways of coping (Roth & Cohen, 1986), with approach defined as cognitive and emotional activity that is oriented toward a threat and including ways of coping such as positive reappraisal, problem solving, and support seeking. In contrast, avoidance is defined as cognitive and emotional activity that is oriented away from a threat and includes ways of coping such as denial and disengagement. A second categorisation has separated problem-focused from emotion-focused coping responses or ways of coping (Lazarus & Folkman, 1987). Problem-focused ways of coping is defined as the active efforts to manage stressful situations and alter a troubled person-environment relationship to modify or eliminate the sources of stress via individual behaviour and include strategies such as active coping, use of informational support, planning, and positive reframing (Folkman, 2007). Emotion-focused coping is defined as the regulative efforts to diminish the emotional consequences of stressful events and include strategies such as seeking emotional support and acceptance. A third higher-order way of coping has been introduced, meaning-focused coping, which is appraisal-based coping whereby an individual draws on beliefs, values, and existential goals to motivate and sustain coping (Folkman, 2007).

Finally, another commonly used category system, used in this thesis, was differentiating engagement from disengagement ways of coping (Compas et al., 2001). Some studies of engagement and disengagement coping also separately measure involuntary ways of coping (such as rumination; see Hernando et al., 2019; Platte et al., 2022). This categorisation of engagement from disengagement (and from involuntary) coping responses has been widely used to identify relevant higher order categories of ways of coping considered constructive or maladaptive, respectively, for optimal recovery from stressful events and wellbeing (Compas et al., 2001). Engagement ways of coping include those that orient toward the stressor or one’s reactions involving cognitive and emotional attempts to manage a situation or associated emotions. In contrast, disengagement ways of coping are those that serve to orient away from the stressor or one’s reactions or related feelings. In this way engagement-disengagement coping is related to the dimension of approach and avoidance (Roth & Cohen, 1986). However, the engagement-disengagement distinction is broader, in that avoidance represents only one way in which an individual can disengage. Examples of engagement coping include positive reappraisal, problem solving, emotional regulation, and acceptance, whereas disengagement coping includes emotional numbing, denial, escapism, and inaction (Connor-Smith et al., 2000).

Ways of coping can be further categorised into primary and secondary control. The distinction between primary and secondary control coping emphasises coping goals, with primary control coping geared toward changing the stressor. This can be done through strategies such as problem solving. Secondary control coping facilitates adaptation to stress through strategies such as acceptance or cognitive restructuring (Rothbaum, et al., 1982). Although any way of coping or category of coping is not always beneficial or detrimental, engagement coping typically relates to better physical and mental health. In contrast, disengagement coping typically predicts poorer health (Compas et al., 2001).

Ways of Coping Measurement

More than 100 labels for ways of coping have been identified across decades of research, alongside multiple scoring systems for measuring and categorising ways of coping (for a review see Skinner et al., 2003). These methods and measures usually reveal a hierarchical structure of coping with engagement and disengagement coping being at the highest-level. At the next level, engagement coping can be further distinguished by coping goals into primary and secondary control engagement strategies. This hierarchical coping model produces three core families of coping, each comprised of more specific coping strategies. These hierarchical levels of coping can be measured by specific coping subscales. The Responses to Stress Questionnaire (RSQ; Connor-Smith et al., 2000) was designed based on this conceptualisation of ways of coping. The RSQ contains five subscales measuring primary and secondary control engagement coping, disengagement coping, and involuntary (engagement and disengagement) coping. The primary control engagement subscale includes items that tap problem solving, emotional regulation, and emotional expression. The secondary control engagement subscale includes items that tap acceptance, distraction, cognitive restricting, and positive thinking. The disengagement coping subscale includes items that tap denial, avoidance, and wishful thinking. The involuntary engagement subscale includes items that tap rumination, intrusive thoughts, emotional arousal, physiological arousal, and impulsive action. The involuntary disengagement subscale includes items that tap emotional numbing, inaction, escape, and cognitive interference. Given the RSQ measures engagement and disengagement coping across a range of possible ways of coping, it was used to measure ways of coping in this thesis.

Summary of Chapter 3 and Introduction to Chapter 4

Chapter 3 described transactional theories of stress and coping theory, which have identified some of the key processes involved in human stress appraisals, coping, reappraisals, and stress-related outcomes. Additionally, diverse coping conceptualisations and their measurement were introduced and described in more detail to support the choice of ways of coping that were investigated in this thesis research. In the next chapter (Chapter 4), the potential relevance of decentering in the stress and coping process and as a correlate of ways of coping are described for coping with general stress and promoting wellbeing. In addition, despite the emerging evidence that decentering is beneficial for positive stress appraisals and adaptive ways of coping with stressors, there has been very little research on the role of decentering in interpersonal and romantic relationship stress, coping, and wellbeing. Given that stress in relationships is common and can be a prominent source of mental health problems, this revealed a research gap that was addressed in the current thesis. Thus, Chapter 4 summarises research and discusses gaps in research on decentering-related constructs, stress, and coping within the domain of interpersonal and romantic relationship stress.

CHAPTER 4

Decentering, Coping with Stressful Events, and Wellbeing: General Findings and Studies of Individuals and Interpersonal Relationships

To summarise previous chapters, decentering is a set of metacognitive processes that capture the capacity to reflect on, critique, evaluate, and refine judgements (i.e., appraisals and reappraisals) about life events and reactions to them in promoting wellbeing (Kross et al., 2014; Nelson et al., 1999; Rhodes, 2019; Stevenson et al., 2019). Thus, given the prominent role of cognitive appraisals and reappraisals in stress and coping processes, this description of decentering implies it should play a role in human stress responding, including ways of coping with stress. A greater capacity for decentering should allow for more adaptive and reasoned responses to stressful events, including more constructive ways of coping that unfold in response to stressors.

In support of the positive role of decentering with more positive or constructive (and less problematic) ways of coping, greater decentering has been associated with less disengagement from distressing psychological content and less emotional reactivity (Travers-Hill et al., 2017). This has been inferred as demonstrating how decentering facilitates non-reactive monitoring of consciousness for broadened perspective-taking. Overall, theory and some research suggest that the human ability to modify maladaptive schematised narratives can pave the way for flexible and adaptive responses to stressful events (Garland et al., 2017). In this chapter, the mindfulness-to-meaning theory is discussed to explain the role decentering could play in stress appraisal and ways of coping with stressful events. Research is reviewed that has investigated decentering as associated with stress appraisal, coping responses, and improved mental health and wellbeing, focusing on individual wellbeing (e.g., positive emotional functioning) and interpersonal relationship wellbeing (e.g., relationship satisfaction).

Mindfulness-to-Meaning Theory, Decentering, and Associations with Stress-Coping Processes and Wellbeing

It has been theorised that decentering supports the positive appraisal of stress (Nelson et al., 1999). One way in which it is argued to support this is in the appraisal of schemas. Schemas being defined as cognitive frameworks that help an individual organize and interpret information about their environment, formed from early learning experiences in conjunction with inborn temperament (Young, 2006). It is argued that the ability to decenter reduces habitual biased schemas by allowing appraisal of the meaning of the schema itself (Nelson et al., 1999). For example, decentering is a process by which a cognition about the self (e.g., I am stupid) and its schema (e.g., failure belief) may be accessed in awareness simultaneously. Its veridicality (i.e., truth) can then be tested from an observer perspective. Therein, decentering is a proposed way that an initial narrow attentional perspective, often induced by stress and negative affect, can be developed into a broadened state of awareness. Through broadened awareness, it is possible that previously unattended positive contextual features may be integrated into the apperception of negative events, resulting in more positive stress reappraisals (Garland et al., 2017).

In support of this argument, the mindfulness-to-meaning theory (MMT; Garland et al., 2017; also see extensions of MMT described in Garland & Fredrickson, 2019) has identified decentering as a mindful emotion regulation strategy that aids awareness and reappraisals helpful for stress reduction and maintaining positive affect. As described by Garland et al. (2017), "decentering is believed to clear working memory of stress appraisals, undo attentional biases associated with stimulus-contingent, maladaptive cognitive schemas, and disrupt automatic behavioral repertoires" (p. 3). More specifically, narrowed attention moves away from habitual negative cognitive sets into more broadened awareness of not only the object of cognition but dynamic models such as schemas and awareness itself simultaneously.

Decentering, Stress Appraisals, and Schemas

Research on meta-awareness, which is one aspect of decentering (Bernstein et al., 2015), has provided some support for MMT and the role of decentering in stress appraisal and coping. In this research, meta-awareness has been negatively associated with adults' schemas of disconnection and rejection, impaired autonomy and performance, impaired limits, other-directedness, and over-vigilance and inhibition (Flink et al., 2018). In this Finnish cross-sectional study of 215 adults, maladaptive schemas were measured using the Young Schema Questionnaire Short Form—Extended (YSQ-S2-Extended; Young & Brown, 2005) and mindful attention-awareness was measured with the Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003). Of most interest to this thesis, linear regression analysis showed that three maladaptive schemas, including lack of self-control and avoidance of thoughts and emotions, were significantly more elevated when mindful attention-awareness was lower. Thus, conversely, greater meta-awareness, a metacognitive process of decentering, was associated with lower levels of maladaptive schemas.

There is other research that has found decentering plays a role in understanding lower levels of maladaptive schemas and their associations with mental health. Two survey studies designed to test the moderating effect of mindfulness on the relationship between schemas and psychopathology, meta-awareness was found to buffer (i.e., weaken) the positive association between maladaptive schemas and depressive symptoms in male adolescents (Calvete et al., 2019) and adults (Martin et al., 2018). Both studies measured trait mindfulness (i.e., meta-awareness) with the Mindfulness Attention Awareness Scale (MAAS; Brown & Ryan, 2003) and schemas with versions of the Young Schema Questionnaire. More specifically, applying path analysis to analyse data from a longitudinal study of 1190 adolescents aged 13 – 18 years (*M* = 15.16, *SD* = 0.95), Calvete et al. (2019) found trait mindfulness (i.e., meta-awareness) was associated with less perpetuation of disconnection/rejection maladaptive schemas over time and buffered the positive association (i.e., reduced the effect size) between schemas and future depression symptoms in adolescent boys. The second study included 207 Australian adults in the community (Martin et al., 2018). In this study, trait mindfulness (i.e., meta-awareness) buffered the positive association between maladaptive schemas (disconnection/rejection, impaired autonomy/performance, impaired limits, other directedness, over vigilance and inhibition) and depressive symptoms, which suggested that the association between maladaptive schemas with depressive symptoms was stronger among individuals with low or medium (relative to high) levels of meta-awareness.

Overall, these findings support the view that decentering can be a resource that reduces negative biases, maladaptive schemas, and mental health symptoms such as depression. Drawing on theory, it is possible that decentering has these positive effects because, though greater meta-awareness, stressful events will be appraised as less threatening, opening up opportunities for more positive coping responses and meaning-making or benefit-finding from stressors.

Associations of Decentering with Ways of Coping and Wellbeing

Supporting the above possibilities, decentering has also been identified as a resource that can help explain positive adaptation to and “benefit finding”, leading to stress appraisals that aid more adaptive ways of coping with stress and better wellbeing (Helgeson et al., 2006). For example, in one longitudinal study examining mindful positive emotion regulation to cope with adverse situations, decentering predicted broader awareness and this in turn predicted more positive stress reappraisals and subsequent positive affect (Garland et al., 2017). In this study of 107 adults with a primary diagnosis of social anxiety disorder, awareness was defined as the ability to become aware of internal and external experiences measured by the observing subscale from the Five Facet Mindfulness Questionnaire (FFMQ; Baer et al., 2008), decentering by the FFMQ non-reactivity subscale, and positive stress appraisals by self-reported ability to regulate emotion by reconstruing the meaning of adverse stressful situations, as measured by the cognitive reappraisal subscale of the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003).

Other research has examined decentering as a mediator explaining when interventions have more positive outcomes for stress appraisals or coping and with psychopathology. For example, several mindfulness and emotional regulation intervention studies have found decentering alone (Garland et al., 2017; Hoge et al., 2015; O'Toole et al., 2019), and decentering and the coping strategy of cognitive reappraisal (Garland et al., 2017; Hayes-Skelton & Graham, 2013; O'Toole et al., 2019) explained greater declines in anxiety symptoms following treatment. Additionally, decentering has been found to mediate the effects of cognitive behaviour therapy and mindfulness interventions on declining depression from pre- to post-treatment (Bieling et al., 2012; Teasdale et al., 2002). More specifically, O'Toole et al., (2019) used multilevel time-lagged segment analyses to explore changes in metacognition and anxiety outcomes from emotion regulation therapy (ERT). Thirty-one adults aged 18 – 29 years (M = 22.3, SD = 2.5) diagnosed with generalized anxiety disorder (GAD; 61% of participants also endorsed co-morbid major depressive Disorder; MDD) engaged in 16 weekly ERT sessions (13 x 60 minutes, 3 x 90 minutes) involving psychoeducation, emotion regulation and coping skills including attentional skills and metacognitive regulation skills (i.e., decentering), and reappraisal of emotional experiences. Unidirectional patterns were found with changes in both decentering and cognitive reappraisal preceding reductions in anxiety symptoms, whilst decentering temporally preceded changes in worry and trait anxiousness. Decentering was also found to predict subsequent changes in cognitive reappraisal which temporarily preceded changes in GAD.

Further research using laboratory techniques to promote decentering, relative to self-immersion, found decentering leads to more appraisal of stress as a challenge rather than a threat (Kross et al., 2014), less emotional reactivity when coping with stress (Ayduk & Kross, 2010; Kross & Ayduk, 2009; Lebois et al., 2015; Moser et al., 2017), more wellbeing (Ranney et al., 2017), and greater meaning in life (Kross & Ayduk, 2011; Orvell et al., 2017; Wang et al., 2019). Of particular interest here, research has shown benefits from perspective broadening through decentering when coping with reflecting on negative events (Travers-Hill et al., 2017). In this experimental study of 26 adults with recurrent major depressive disorder (MDD; currently in remission), participants were randomly assigned to either a four-week training and self-guided practice in ‘self-distancing and perspective building’ or an ‘overcoming avoidance control condition’. Decentering and broad perspective-taking (c.f., a control group) were associated with reduced distress and residual depression symptoms when meta-cognitively coping with negative life event memories.

Additionally, decentering has been found to play a role in both adaptive (fully mediates) and maladaptive (partially mediates) disengagement ways of coping with negative emotion and stress, such as rumination and avoidance responses to depressed mood, demonstrating an adaptive use of decentering for coping using problem-solving and distraction to shift mood (Ishikawa et al., 2018). In this research study, 241 Japanese undergraduate students (*M* = 20.0, *SD* = 1.0) completed surveys on trait decentering (Experiences Questionnaire – Japanese version), response styles (i.e., rumination for problem solving, negative rumination, distraction for mood changing, distraction for avoidance), and depression (The Center for Epidemiologic Studies Depression Scale – Japanese version; CES-D; Shima et al., 1985).

Thus, in summary, research supports the role of decentering in reduced threat appraisals and coping with stress through positive adaptation and benefit finding. In addition, decentering and/or stress appraisals were found to aid more adaptive ways of coping with stress (i.e., metacognitive regulation skills and benefit finding when reappraising emotional experiences), reduced psychopathology, and better wellbeing.

Decentering, Ways of Coping, and Wellbeing within Interpersonal and Romantic Relationships

Extant research described above supports the direct and indirect effects of decentering between ways of coping (e.g., cognitive reappraisal, rumination, avoidance), and reduced distress, decreasing psychopathology, and promoting wellbeing. However, the stressful events that may result in distress, psychopathology or poorer wellbeing are varied and the ways of coping that may be needed to maintain wellbeing in the face of any particular type of stressor may also vary. Distress can be an outcome of external (e.g., interpersonal conflict) stressors or be a marker of internal problems (e.g., anxiety, depression) and differ in intensity (i.e., major versus minor) and duration (i.e., acute versus chronic; Randall & Bodenmann, 2009). Of particular interest to this thesis was understanding distress as associated with the stressor domain of interpersonal relationships, given that Australian residents reported family, relationship, and friendship issues as their top stressors over the period of 2011-2015 (Murray & Littlefield, 2015). These interpersonal stressors can also prompt longstanding cognitive biases and over-expectation or over-reactivity to the possibility of interpersonal problems, thereby overloading coping regulatory systems (Santee et al., 2023). Indeed, maladaptive emotion regulation strategies and repetitive negative thinking have been found to occur more frequently for interpersonal compared to non-interpersonal stressors (Santee et al., 2023) making this an important focal area for research. Likewise, social relationships are important for survival and have a powerful influence on human health and longevity (Holt-Lunstad, 2018). Furthermore, a recent study found 71% of participants experienced problems in their interpersonal relationship for two years before seeking counselling (Doherty et al., 2021). As described in a review of the research (Gomez-Lopez et al., 2019), this is problematic because unresolved relationship stressors are predictive of greater internalising symptoms (e.g., sadness, depression) and less wellbeing and relationship satisfaction. More specifically, reduced communication and conflict resolution between individuals in a relationship had significant detrimental effects on couple members' wellbeing.

Moreover, understanding stress and responding to stress within not only interpersonal but romantic couple relationships is important given a 5-year longitudinal study that found frequent couple conflict foretold a greater decline in relationship satisfaction and increased the risk of relationship instability or breakdown (Johnson et al., 2018). Whilst conflict can be beneficial for challenging growth and communication in a relationship (Ruvolo et al., 2001) it can also be detrimental (Sells et al., 2009). Unresolved or chronic couple conflict has been linked to heightened depressive symptoms, eating disorders, substance abuse, and physical illness (for a review see Fincham, 2003), as well as declines in physical, emotional, and psychological wellbeing (for a review see Sells et al., 2009). In fact, the frequency of couple conflict is a well-known correlate of lower relationship satisfaction (Johnson et al., 2018).

Additionally, the type of strategies used to cope and resolve conflict are also important to consider as they are predictors of more relationship wellbeing. Greater communication, empathy, forgiveness, mutual support, and confidence have all been found to promote resolution of romantic conflict (for a review see Batista da Costa et al., 2017). Thus, how individuals cope with interpersonal and romantic conflict can be relevant to their relationship wellbeing, including the level of conflict they experience, how they negotiate conflict, and their satisfaction with their relationship.

One purpose of this thesis was to identify individual metacognitive resources that can promote adaptive stress-appraisal-coping processes within the domain of romantic relationships. In particular, decentering may be one of these metacognitive resources that can play a role in coping with romantic stressors, given the theoretical and empirical links between decentering and more positive stress appraisals and ways of coping with distress (Garland et al., 2017). However, a search of the literature found only one study with the focus on a specific aspect of decentering, which the authors referred to as self-distancing, within romantic relationships (Ayduk & Kross, 2010). In this study, self-distancing was related to more positive reappraisal, less emotional reactivity, and more positive interpersonal problem-solving in couples when reflecting on conflict. Self-distancing was measured with one item, whereby study participants indicated the extent to which they saw the conflict replay through their own eyes versus watched the conflict unfold as an observer as they pondered their deepest thoughts and feelings regarding the experience. Ayduk and Kross (2010) conducted this 21-day diary and 2-hour laboratory study with 53 monogamous, unmarried, heterosexual couples in a relationship for an average of 16.5 months. The analyses of the data from the 21-day diary controlled for global relationship commitment and reappraisals in addition to including the perception of conflict resolution as a covariate, finding that self-distancing uniquely predicted less emotional reactivity when reflecting on relationship conflict at the end of the day. Conversely, a lower level of self-distancing was predictive of perceiving more partner hostility and reporting more hostility towards their partner. Importantly, this infers that direct reciprocation in couples’ conflict behaviour occurs when self-distancing is low (compared to non-reciprocation at high levels), which may be problematic when negativity is high leading to conflict escalation.

Additionally, in the same study (Ayduk & Kross, 2010), a laboratory-based conflict discussion task revealed self-distancing was predictive of more constructive problem-solving behaviour. Furthermore, when hostility and problem-solving behaviour scores were combined to reflect maladaptive conflict behaviour, results showed that participants higher in self-distancing were lower in maladaptive conflict behaviour. Overall, these findings point towards positive ways of coping (i.e., greater problem-solving) achieved through the application of decentering in couple relationships and in particular when couples experience or reflect on conflict. Thus, these findings provide evidence for the behavioural and interpersonal implications of one aspect of decentering (self-distancing) in coping and ways of coping with conflict within couple relationships.

Summary of Research and Gaps in the Existing Research

In summary, past research has identified a positive role of decentering in more positive stress responding, less affective reactivity, and better coping with stress and wellbeing, generally and specifically related to stress within couple relationships. However, there are two primary gaps in this research. First, most past studies have conducted mediational analysis with the aim of testing whether decentering is a bridge that explains wellbeing outcomes from mindfulness or similar interventions, often limiting the sample to those with mental health distress and only focusing on stress-coping processes as an intervention outcome correlated with wellbeing changes over time (Adair et al., 2018; Eustis et al., 2018; Hoge et al., 2015; Josefsson et al., 2014). Thus, encouraging decentering is an aim of these interventions thought to be responsible for improvements in mental health, but the focus on the theoretical ideas regarding decentering as associated with better stress responding and more adaptive or constructive ways of coping with stress has not often been a main consideration in these past studies. Similarly, other researchers have used experimental designs comparing the impact of decentering to the impact of self-immersion on stress responding outcomes (Ayduk & Kross, 2009; Henderson et al., 2006; Kross & Ayduk, 2009; Wang et al., 2019). Thus, little is known about whether naturally occurring skills of decentering are beneficial for stress appraisal-coping processes among unselected groups of adults.

Second, none of the studies defined the stressor domain itself when studying the role of decentering in appraising and coping with stressful events (or when considering improvements in wellbeing linked to increases in decentering). Stressors vary in type and intensity at the same time that there are individual differences in how individuals appraise and respond to stress. In addition, different stressful events call out for different ways of coping, with some ways of coping more adaptive for some stressors than for others (Cheng et al., 2014; Gardner et al., 2023; Person & Frazier, 2023; Zimmer-Gembeck & Skinner, 2016). Therefore, when survey studies (or other types of studies) rely on self-reports of stressful events, perceptions, appraisals, recalled coping responses, and personal characteristics (e.g., decentering) that might explain individual differences in responding to stressful events, it is important to define or constrain the type of stressor as much as possible. Without defining the stressor context, the study design can leave open the possibility that variation in the external occurring type and level of stressor could account for some of the findings (Folkman et al., 1986). This makes it particularly important to focus on a specific stress domain and coping responses within this domain when the aim is to isolate individual differences in decentering and its associations with ways of coping, and wellbeing and other personal outcomes. Thus, Study 2 of this thesis had the aim of clarifying the association of decentering in individuals' ways of coping with romantic stressors in their lives using a cross-sectional study design and survey methodology. Study 3 of this thesis focused on the role of decentering in coping among romantic couples using a survey and couple conflict discussion task to investigate how one couple member's decentering related to their own coping and relationship wellbeing and related to their partners' coping and relationship wellbeing, given that one area of stress that is common and can be quite distressing is conflict in couple relationships (Johnson et al., 2018).

Summary of Chapter 4 and Introduction to Chapter 5

Studies have found associations of decentering with appraisals of stress, ways of coping, and multiple measures of emotional problems or wellbeing. Specifically, decentering has been described as an individual cognitive capacity that can broaden awareness, which can support positive stress appraisals and emotion regulation and other ways of coping with stress through metacognitive skills and benefit finding. Decentering also seems related to fewer negative biases, maladaptive schemas, and symptoms of mental health problems. Additionally, emerging research on the associations between decentering and interpersonal and romantic relationship stress and coping point towards positive ways of coping (i.e., greater problem-solving) achieved through the decentering process of self-distancing (i.e., adopting an observer perspective). However, romantic stress is often embedded within a couple and depends on coping within the dyads. To address this, Chapter 5 expands on Chapter 4 to focus on decentering and coping with romantic relationship stress and relationship wellbeing at the couple level. Couple conflict is covered in more detail and relevant research is reviewed to support the focus on decentering and relationship stressors for individuals who reported a current romantic relationship in Study 2, and the focus on decentering, romantic stress, conflict, and conflict resolution within couples in Study 3 by collecting data from each couple member and observing couples interacting while discussing a recent conflict.

CHAPTER 5

The Study of Couples: Decentering, Conflict, and Relationship Wellbeing

Romantic stressors usually impact on both members of the couple and, in the context of the couple dyad, dealing with stress becomes an interactional process emphasised by the reciprocal nature of interrelated stress experiences of both partners (Bodenmann, 1997). One partner's stress and ways of responding is interdependent with the other partner and vice-versa, involving the sharing of cognitive appraisals, emotions, and coping behaviours (Bodenmann, 2005). Coined *'dyadic coping'* (Bodenmann, 1997, 2005), this cycle of interdependent stress appraisal, coping response, and reappraisal of a shared stressor affects each partner. Whilst the aim of dyadic coping is to lower stress, restore wellbeing, and enhance couple functioning through reciprocal trust and intimacy, according to Bodenmann's model it can be positive (i.e., supportive, understanding, helpful, engaged joint problem-solving) or negative (i.e., superficial, ambivalent, hostile). Decades of relationship research has established that distressed couples make more negative and fewer positive statements and engage in more negative behavioural reciprocity than non-distressed couples (Fincham, 2003; Gottman, 1993; Ramos Salazar, 2015). Related to dyadic coping, increased levels of a couple's demand-withdraw pattern (especially during conflict), wherein one individual responds with negative affect to the other's disengagement behaviour, is related to decreases in relationship satisfaction (Fincham, 2003).

Whether dyadic coping is effective or ineffective, in part, is linked to each partner's perceptions, appraisals, and coping responses (Finkenauer & Righetti, 2011; Nelson et al., 2017; Pollmann & Finkenauer, 2009) in addition to a sense of control (Swann et al., 1992). Some of these perceptions, appraisals, and ways of coping that are most constructive for overall dyadic coping hinges on the ability to 'put yourself in the other person's shoes', that is perspective-taking.

Additionally, effective coping is dependent on the style of coping. Aligned with the overview of stress and ways of coping discussed in Chapter 3, two of the most widely recognised broad categories of coping responses for dealing with conflict are *'approach'* and *'avoidance'* coping (Roth & Cohen, 1986). Approach coping involves cognitive and emotional activity orientated towards the stressor or conflict whilst avoidance coping is orientated away from the stressor. Examples of positive approach coping include positive reappraisal, problem solving, emotional regulation, and acceptance, whereas negative avoidance coping includes emotional numbing, denial, escapism, and inaction (Connor-Smith et al., 2000). Consequently, in the context of interpersonal relationships and romantic couples, the core coping skills recognised in successful conflict management include viewing the issue from multiple perspectives, problem-solving, empathy, active listening, and emotional intelligence (Coleman et al., 2014). Thus, couples who exhibit strong positive approach coping also experience more effective communication, better dyadic coping (Kuster et al., 2017), and increased relationship satisfaction (Falconier et al., 2015; Papp & Witt, 2010) compared to couples using more negative avoidance coping.

Furthermore, Gottman and Gottman (2017) explained that successful conflict management through application of their therapy conflict blueprints (i.e., active-listening, processing past hurts, and acceptance) requires a good capacity for emotional regulation. Interestingly, Gottman and Gottman state, "conflict is easier to manage when people are physiologically calm" (p. 17) and "what is needed here is increasing awareness and mindfulness about how one's partner expresses needs for connection" (p. 15). This is important to the current research given that meta-awareness is a metacognitive process of the decentering conceptualisation (Bernstein et al., 2015). Recent dyadic mindfulness studies show greater meta-awareness is linked to lower cardiovascular reactivity during couples' conflict (Kimmes et al., 2018), greater use of positive conflict strategy (i.e., compromise), and greater relationship satisfaction (Harvey et al., 2019). Additionally, experimental research has reported that individuals who decenter are more effective in reducing negative affect as well as facilitating emotional processing and reduced avoidance compared to individuals who are self-immersed in a situation (Ayduk & Kross, 2009). It is therefore possible that decentering may be a predictor of positive coping strategies (e.g., perspective-taking, approach coping) and relationship satisfaction within couples. However, to date no research has examined such links at the couple (dyadic) level.

Another significant factor identified in the Gottman method of couple therapy (Gottman & Gottman, 2008) advocates down-regulating negative affect and up-regulating positive affect in creating and nurturing shared meaning. Again, relative to the current research, it is possible that the metacognitive processes of decentering may be a predictor of meaning in life and relationship satisfaction as research has shown that at the individual level, decentering or a self-distancing perspective (cf. self-immersion) predicted meaning in life through positive affect (Wang et al., 2019). However, to date no research has examined the links between decentering and relationship satisfaction at the dyadic level within romantic couples.

Drawing together this past research and given the high prevalence of individual experience of daily stress and frequency of couples engaging in conflict, it is important to identify individual differences that promote effective coping. In particular, abilities that promote broader perspective-taking for appraising stress as a challenge (compared to a threat), emotional regulation, positive reframing for meaning-making, and acceptance. One such ability that could potentially fill this role is the metacognitive processes of decentering.

The Role of Decentering in Coping with Romantic Couple Conflict

Only one study examining decentering in couples’ conflict could be located. This study was designed to test whether romantic partners' mindfulness during a conflict discussion buffered the effects of partner negative behaviours on neuroendocrine stress responses (Laurent et al., 2016). Laurent et al. (2016) examined 88 predominantly white (83.8%) university student and community heterosexual couples during a conflict discussion task, where couples self-reported decentering on 7-items of the Toronto Mindfulness Scale (TMS; Lau et al., 2006). Negative conflict engagement measured by trained coders included attempts to control, coerciveness, negativity and conflict, and verbal aggression as well as disengagement measured as withdrawal (Laurent et al., 2016). Stress responses were measured by cortisol levels from saliva samples collected at session entry, 20-minutes after conflict task description (anticipatory sample), 10-minutes post-conflict task (conflict stress sample), and 15 and 30-minutes post conflict stress sample (index recovery; Laurent et al., 2016). Whilst no significant effects of decentering were found in relation to stress responses on negative engagement behaviours, partner withdrawal predicted slower cortisol recovery in men with lower levels of decentering (Laurent et al., 2016). This suggests decentering may have differential impact for different types of partner behaviours. Interestingly, Laurent and colleagues conducted follow-up correlational analyses, finding that partners' mindfulness (i.e., decentering and curiosity) during conflict was related to more positive reappraisals and empathy, both important factors related to conflict resolution (Coleman et al., 2014). The results of this decentering and couple conflict study (Laurent et al., 2016) imply that all (or some) individuals who are lower in their capacity for decentering may experience greater emotional reactivity and slower stress recovery. Although this is only a start to research in the area of decentering and couple conflict, the findings are consistent with other, more general, research on decentering (Travers-Hill et al., 2017).

Whilst not directly examining couples, there have also been promising results for improving social interaction and positive emotions in relation to gains in decentering (Adair et al., 2018). Adair et al. (2018) randomly assigned 94 predominantly white/European-American (65%) community adults to a 6-week mindfulness meditation or active control course and assessed participants on several measures of social interaction, positive emotions, and decentering using the Toronto Mindfulness Scale (Lau et al., 2006) at pre- and post-training. There were no effects of treatment on the outcome measures. However, gain in trait mindfulness of the meditation group predicted gains in decentering, which in turn predicted reductions in negative emotions and gains in social connection (Adair et al., 2018). Concurrently, social connection predicted gains in positive emotions (Adair et al., 2018). These findings are the first to demonstrate that decentering may be involved in reducing self-focus and increasing present moment awareness when interacting socially, which seems likely to enhance social connection and emotional wellbeing. Such interactions within couples might be beneficial for relationship satisfaction.

There is still a great deal to learn regarding the positive role decentering may play in couples' relationships, particularly in relation with established factors predictive of conflict management such as engagement coping (Connor-Smith et al., 2000). To address this gap, within the current thesis, couple members' decentering was investigated as a correlate of each member's ways of coping with interpersonal and romantic relationship stress and relationship wellbeing at the individual and dyadic levels. Data were collected using a combination of a cross-sectional survey and an observed interaction between couples as they discussed a relationship conflict.

Summary of Chapter 5 and Introduction to Chapter 6

A high prevalence of individual experience of daily stress related to their couple relationship and the frequency that couples experience conflict warrant the identification of individual differences that promote effective coping. One such ability that could potentially fill this role is the skill of decentering that research has shown promotes broader perspective-taking for appraising stress as a challenge (compared to a threat), emotional regulation, positive reframing for meaning-making, and acceptance at the individual level. However, whilst promising potential positive benefits, research has only begun to explore the associations of the metacognitive processes of decentering with stress and coping at the romantic couple level. This identified gap in research supports this thesis research. Chapter 6 discusses the aims of this thesis and background are briefly summarised to introduce the next three chapters (Chapters 7 to 9), which present the three manuscripts containing four studies completed for this thesis.

CHAPTER 6

General Purpose and Aims of the Research

Drawing from theory and research described in previous chapters, the overarching purpose of the research included in the current thesis was to directly test associations of the metacognitive processes of decentering with stress-coping responses and wellbeing within the contexts of interpersonal and romantic relationship stress. This purpose was achieved through conducting three studies. First, given that no consensus on how to measure the metacognitive processes of decentering was available at the time of the development of these study aims, this depended on exploring, in Study 1, the measurement of the metacognitive processes model of decentering. Following this, the emergent metacognitive processes of decentering identified in Study 1 were used to isolate associations with coping responses (engagement and disengagement) within interpersonal and romantic relationship stress and their effects on relationship wellbeing at the individual (Study 2) and dyadic (couple) level (Study 3). This current research was guided by specific ideas located within stress and coping theory (Lazarus & Folkman, 1984), the metacognitive processes model of decentering (Bernstein et al., 2015), and relationship theory (Gottman et al., 2002). An assumption was made, supported by research (Hanley et al., 2020; Medvedev et al., 2017), that the capacity for decentering can be assessed as a trait that will vary among individuals. Thus, it is expected that trait decentering reflects established patterns of behaviour that are important for lasting beneficial effects (e.g., emotional regulation and problem-solving) across time and contexts compared to state decentering which may fluctuate (Hanley et al., 2020; Medvedev et al., 2017). There were four aims for the current research, which align with the three overarching aims described in Chapter 1. These included:

1. To determine if commonly used measures of decentering produce a factor structure which align with the metacognitive processes model of decentering (see Study 1a; Chapter 7);
2. To test the unique associations of the metacognitive processes model of decentering with coping and interpersonal stress in young adults (see Study 1b; Chapter 7)
3. To focus more explicitly on the interrelationships of the metacognitive processes of decentering and romantic relationship stress and wellbeing via ways of coping responses in young adults (see Study 2; Chapter 8);
4. To explore the actor and partner effects of the higher order construct of decentering with ways of coping with relationship stress, observed perspective-taking, and romantic relationship wellbeing among young adult couples (see Study 3; Chapter 9).

The focus of each study is summarised below:

1. Addressing the first two aims, Study 1a and 1b tested whether commonly used measures of decentering produce a factor structure and associations with stress and coping, that align with theory. A 3-factor structure was expected to be revealed and the metacognitive processes of decentering were estimated to be uniquely associated with coping (i.e., self-efficacy, flexibility, engagement, disengagement) and interpersonal stress. This was done by exploratory and confirmatory factor analysis and examining multiple linear regressions, respectively.
2. Addressing the third aim, Study 2 examined the associations of the metacognitive processes of decentering and romantic relationship wellbeing as mediated by two coping responses of engagement and disengagement. In this cross-sectional study, mediation analyses using Process macro for SPSS were used to examine direct and

indirect associations between metacognitive processes of decentering and relationship wellbeing (conflict, conflict resolution, and satisfaction). The aim was to better identify whether and which metacognitive processes of decentering might be beneficial for responding to stressful experiences within romantic relationships.

3. Addressing the fourth aim, Study 3 examined whether an individual's capacity for decentering effected their romantic partner's capacity for decentering, coping responses (engagement, disengagement), observed perspective-taking, and relationship wellbeing (i.e., conflict, conflict resolution, satisfaction). This was accomplished with six Actor-Partner Independence Models (APIM) examining the relationship between latent decentering (meta-awareness, observer perspective, regulated reactivity to thought content) and outcome measures using AMOS v26.0.

Figure 6.1

Outline of Thesis Aims and Corresponding Empirical Studies

The Role of Decentering in Coping with Interpersonal and Romantic Relationship Stress and Relationship Wellbeing

Aim 1: To determine if commonly used measures of decentering produce a factor structure which align with the metacognitive processes model of decentering.

Aim 2: To test the unique associations of the metacognitive processes model of decentering with coping and interpersonal stress in young adults.

Aim 3: To focus more explicitly on the interrelationships of the metacognitive processes of decentering and romantic relationship stress and wellbeing via ways of coping responses in young adults.

Aim 4: To explore the actor and partner effects of the higher order construct of decentering with ways of coping with relationship stress, observed perspective-taking, and romantic relationship wellbeing among young adult couples.

Study 1
(Chapter 7)

Study 1a

Purpose: Thesis Aim 1.

Design: Cross-sectional.

N = 442 young adults

M_{age} = 21.7 years, *SD* = 5.1.

Data Analysis: Exploratory factor analysis.

Study 1b

Purpose: Thesis Aim 2.

Design: Cross-sectional

N = 442 young adults

M_{age} = 21.4 years, *SD* = 4.7

Data Analysis: Confirmatory factor analysis.

Study 2
(Chapter 8)

Purpose: Thesis Aim 3

Design: Cross-sectional.

N = 357 young adults between 20-35 years of age and cohabiting with their romantic partner for 2-5 years.

M_{age} = 24.7 years, *SD* = 4.1 years.

Data Analysis: Correlation, linear regressions, and mediation analyses.

Study 3
(Chapter 9)

Purpose: Thesis Aim 4

Design: Cross-sectional.

N = 76 young adults and their romantic partners (152 participants) between 20-35 years of age and cohabiting for 2-5 years.

M_{age} = 27.7 years, *SD* = 5.2 years.

Data Analysis: Correlation and Actor-Partner Interdependence Models.

CHAPTER 7

Study 1: The Measurement and Benefit of Decentering for Coping Self-efficacy, Flexibility, and Ways of Coping with Interpersonal Stress

Chapter 7 contains Study 1a and 1b, which are presented in the form of a published journal article, except for altering Figure and/or Table numbers to be unique across this thesis document. References for this chapter are included at the end of the thesis as part of a full reference list. The aim of Study 1a was to identify and test the measurement of the metacognitive processes model of decentering whilst Study 1b examined metacognitive processes of decentering associations with coping self-efficacy and coping responses. Study 1a and 1b addressed research aims 1 and 2 by identifying metacognitive processes of decentering (i.e., observer perspective, regulated reactivity to thought content) as positive correlates of coping self-efficacy and coping flexibility in Australian youth. Additionally, two of the metacognitive processes of decentering can be reliably measured with two measures used in the study.

Statement of Contribution to a co-authored Published Paper

This chapter includes a co-authored published paper, consisting of a post-peer review, pre-copyedit version of an article published in Personality and Individual Differences. The final authenticated version is available online at https://doi.org/10.1016/j.paid.2021.110932. The details of this co-authored paper, including all authors are:

Duncan, N. S., Zimmer-Gembeck, M. J., Gardner, A. A., & Modecki, K. (2021). The measurement and benefit of decentering for coping self-efficacy, flexibility, and ways of coping with interpersonal stress. *Personality and Individual Differences, 179,* 110932. https://doi.org/10.1016/j.paid.2021.110932

My contribution involved:

- Review of the extant literature
- Co-development of hypotheses and direction of manuscript
- Selection of measures to include in the study
- Co-development of research design, data collection, and entry of data
- Conducting preliminary and primary analyses
- Writing and editing drafts of the overall manuscript
- Corresponding author of the manuscript

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Past Associate Supervisor: Associate Professor Kathryn Modecki

Abstract

Decentering comprises meta-awareness, disidentification from internal experience, and reduced reactivity to thought. In two studies, we considered if commonly used decentering measures align with this 3-process model and examined whether decentering was associated with better stress and coping responses. Study 1 included 442 university students (60% female, M_{age} = 21.7 years) who completed three previously used decentering measures (28 items). Study 2 included 442 university students (54% female, M_{age} = 21.4 years) who completed measures of decentering, coping self-efficacy and flexibility, interpersonal stress, and coping responses to interpersonal stress. In Study 1a, items that aligned with the 3-process model loaded on two factors, labeled *observer perspective* (tapping two decentering elements of meta-awareness and disidentification from internal experience) and *regulated reactivity to thought content*. A third factor, represented by items not aligned with decentering, was labeled *transcendent life reflection*. In Study 1b, the factor structure was confirmed, and decentering subscales were associated with greater coping efficacy and flexibility, less use of disengagement/involuntary coping, and less perceived interpersonal stress. Observer perspective and transcendent life reflection were associated with more engagement coping. The findings support decentering as a multidimensional construct that is associated with greater efficacy and more flexible and adaptive stress responding.

Keywords: decentering, coping flexibility, coping self-efficacy, interpersonal stress.

The Measurement and Benefit of Decentering for Coping Self-Efficacy, Flexibility, and Ways of Coping with Interpersonal Stress

1. Introduction

Stressful events can be a motivator for perseverance and task completion but often seem to interfere with sustained effort, performance, and health (Averill et al., 2018). Stressful events are associated with a broad array of ailments, such as physical symptoms (e.g., headaches, fatigue, sleep problems), mood disturbances (e.g., anxiety, irritability, depression) and behaviour changes (e.g., over or undereating, drug and alcohol misuse, social withdrawal; see Cooper & Quick, 2017 for a review). Also concerning, in 2018, 35% of citizens drawn from 142 countries worldwide (approximately 1,000 adults aged 15+ per country) reported experiencing distress (i.e., worry, stress, physical pain, sadness, anger) the day before being polled (Gallup, 2018). Such a high prevalence of distress suggests that it is more important than ever to conduct research to identify individual traits or styles of thinking and behaving, especially those amenable to intervention and change, that can facilitate the human capacity to adapt successfully to stressful events (Masten, 2014; Southwick et al., 2014). After drawing together several measures aligned with the metacognitive processes model of decentering proposed by Bernstein et al. (2015) and exploring and confirming the factor structure, the aim of the present study was to test whether decentering has benefits for stress responding, as indicated by positive associations with coping efficacy and flexibility, as well as ways of coping with interpersonal stressors.

1.1 Decentering: The 3-Process Model and Measurement

1.1.1 Definition of decentering and the 3-process model. Decentering has been described as disengaging from sensory, cognitive, or emotional experiences to achieve a reflective distance; in other words, as the ability to take an observer perspective on personal thoughts and emotions (Travers-Hill et al., 2017). To date, there have been diverse views on how to define and measure decentering, including work on cognitive defusion, metacognitive awareness, and mindfulness (for a review see Bernstein et al., 2015). Although these concepts had been identified as likely to be interrelated with each other, as far as we are aware, these views were not summarized and organized until the emergence of the metacognitive processes model (Bernstein et al., 2015). In this model, decentering was conceptualized as three interrelated processes: (1) meta-awareness, (2) disidentification from internal experience, and (3) reduced reactivity to thought content. Meta-awareness is defined as the explicit awareness of the content and process of personal consciousness (Schooler, 2002). Disidentification from internal experience is defined as the experience of internal states being separate from oneself (Kross et al., 2005). Reduced reactivity to thought content is defined as little emotional reactivity of other mental processes from thought content (Bernstein et al., 2015). This 3-process decentering model identifies critical skills for shifting from a subjective perspective to a more objective perspective on the self and the interactions of the self with the social world. Such a shift in perspective is expected to facilitate tolerance of aversive inner experience either in general or in response to stressful events.

1.1.2 Measurement of decentering. Researchers have employed a variety of self-report measures to assess decentering (Fresco et al., 2007; Naragon-Gainey et al., 2017). Most often, measures used do not fully capture the three decentering processes described by Bernstein et al. (2015). For example, some have measured decentering with the Experiences Questionnaire decentering subscale (EQ; Fresco et al., 2007), which assesses a unidimensional construct of disidentification from content of negative thinking. Notably, in some descriptions, decentering shares some commonality with the conceptualization of dispositional mindfulness (i.e., the ability to focus attention on experiences in the moment without judgment; Kabat-Zinn, 1990), and, because of this commonality, some researchers have relied on the nonreactivity subscale of the Five Facet Mindfulness Questionnaire (FFMQ; Baer et al., 2008) to assess decentering (Garland et al., 2017).

Fortunately, contemporaneous to this study, one study made some progress on how to measure decentering. Hanley et al. (2020, Study 1, *N* = 355) analyzed 140 items from eight measures. After 19 factors were extracted in an initial exploratory factor analysis, additional analyses reduced the items to a final set of 15 items loading on three factors labeled meta-awareness (5 items), (dis)identification from emotional experience (5 items), and (non)reactivity to internal experience (5 items). Retained items were from the EQ, the Self-as-Context Scale (SAC; Zettle et al., 2018), the Toronto Mindfulness Scale (decentering subscale; TMS-D; Lau et al., 2006), and the FFMQ (nonreacting subscale; Baier et al., 2008) plus three new items that had been developed for this study. Although useful for locating a set of items that could be used to measure decentering, it is possible that the culling of a high number of items may have led to factors that tap narrow features of each element of decentering while reducing naturally occurring covariation between factors. Thus, in the present study, decentering was again assessed with multiple measures including the Experiences Questionnaire (EQ; Fresco et al., 2007), Self-as-Context Scale (SAC; Zettle et al., 2018), and the Cognitive Fusion Questionnaire (CFQ; Gillanders et al., 2014). Analyses were conducted to explore (Study 1) and confirm (Study 2) the hypothesized factor structure in line with the metacognitive processes model of decentering (Bernstein et al., 2015; 2019).

1.2 Decentering, Stress, and Coping Responses

Bernstein et al. (2015) describe decentering as a trait or skill that allows for greater tolerance and more positive thoughts and behavioural responses to aversive experience. Hence, decentering should yield more constructive and adaptive stress and coping responses. To identify more precisely the specific responses that decentering might yield, the transactional theory of stress and coping (Lazarus & Folkman, 1984, 1987) was drawn upon. Lazarus and Folkman (1984) described how individuals appraise the significance of stressful events in relation to their goals and the context. In general, appraisals supply a holistic running verdict about the meaning of incoming experiences as (current or impending) threats and challenges relevant to the self's goals and preferences. Appraisals are part of a process that sets in motion coping responses, reappraisals, and learning. Appraisals and subsequent coping responses are known to show individual differences and these differences are also described as influenced by meta-cognitive capacities (Skinner & Zimmer-Gembeck, 2016; Taylor & Stanton, 2007). Like descriptions of decentering, metacognitive capacities allow individuals to reflect on, critique, evaluate, and refine their own judgements (Nelson et al., 1999; Rhodes, 2019), and this can be applied to stressful events and coping responses. Such notions have led to arguments that decentering, as a set of meta-cognitive capacities, should be linked to perceiving less stress when challenging or threatening life events or daily hassles occur, and more constructive or adaptive coping in response to stressors (Kross et al., 2014).

1.2.1 Associations of decentering with stress and coping. Decentering, either naturally occurring or induced, may yield more constructive stress appraisal processes and more positive responses to stressful events. For example, decentering has been associated with more positive thinking, positive appraisals or reappraisals of stress, and adaptive reflection on stressful events (Helgeson et al., 2006). Also, in one longitudinal study of 107 adults from the USA with a principal diagnosis of social anxiety disorder, decentering was associated with more meta-awareness and this in turn predicted more positive cognitive construal of stress and more positive affect (Garland et al., 2011, 2017). Yet, the preponderance of the evidence for the positive role of decentering for managing stress has come from clinical intervention studies examining decentering as a mediator explaining when interventions are effective for mitigating emotional disorders (Beiling et al., 2012; Garland et al., 2017; Hoge et al., 2015; Josefsson et al., 2014; O'Toole et al., 2019; Teasedale et al., 2002). Of most interest to this study, evidence has shown pathways from decentering to wellbeing via attentional broadening and more positive stress reappraisal processes (Garland & Frederickson, 2019; Garland et al., 2017).

There has also been experimental research on decentering that suggests its positive role in stress responding. In this research, a manipulation to prompt decentering (i.e., take a step back and watch the experience happening to your distant self) resulted in more constructive appraisals of stress (Kross et al., 2014) and less emotional reactivity (Ayduk & Kross, 2010; Kross & Ayduk, 2009; Lebois et al., 2015; Moser et al., 2017) when compared to a condition where participants immersed themselves in the experience (i.e., replayed events through their own eyes). Also, in another psychological experiment, Travers-Hill et al. (2017) found decentering and broad perspective-taking (c.f., a control group) reduced distress and residual depression symptoms in a clinical sample of major depressive disorder patients who were in remission. Additionally, research has shown decentering plays a role in both adaptive (fully mediates) and maladaptive (partially mediates) rumination and avoidance responses to depressed mood, demonstrating an adaptive use of decentering for problem-solving and distraction to shift mood (Ishikawa et al., 2018). Interestingly, in a separate study, a longitudinal cross-lagged analysis found a positive effect of cognitive reappraisal on decentering but not the reverse (Kobayashi et al., 2020).

When taken together, a handful of cross-sectional, longitudinal, intervention and experimental research studies support the potential benefits (or at least interrelationships) of decentering with stress, coping, and wellbeing. However, it remains unknown if there are associations of decentering with other general traits or skills that have been associated with optimal responses to stress, including coping self-efficacy (Chesney et al., 2006; Delahaij & Van Dam, 2017; Luberto et al., 2014) and coping flexibility (Cheng et al., 2014; Kato, 2012; Zimmer-Gembeck et al., 2018). Moreover, it has been rare to examine associations of decentering with coping specific to a stressor domain and, of interest here, interpersonal stress.

1.2.2 Decentering, coping efficacy, and coping flexibility. In the present study, decentering was expected to be associated with other coping-related skills, specifically more coping self-efficacy and coping flexibility. Firstly, coping self-efficacy has been defined as confidence in one's own ability to effectively cope with difficult or threatening events (Chesney et al., 2006) which according to self-efficacy theory (Bandura, 1997) is important because the belief in one's ability to execute a behaviour successfully influences an individual's engagement and level of effort exerted in that behaviour. Whilst no search found literature examining the relationship between coping self-efficacy and decentering, Luberto et al. (2014) found the mindfulness traits of describing, acting with awareness, and accepting without judgment were associated with greater coping self-efficacy. Given meta-awareness has been identified as an aspect of decentering, it was expected that decentering would be associated with greater coping self-efficacy.

Secondly, coping flexibility involves having access to a range of coping responses appropriate to the requirements of stressful events and has been defined as the ability to discontinue an ineffective coping strategy (i.e., evaluation coping) and produce and implement an alternative coping strategy (i.e., adaptive coping; Kato, 2012). Again, no known research has examined the association of decentering with coping flexibility. Research has however found mindfulness (non-reactivity to inner experience, observing, meta-awareness, describing, and non-judgement) to be associated with a higher level of coping flexibility (Jones et al., 2019). As such, given acknowledged similarities between some aspects of mindfulness (i.e., meta-awareness and non-reactivity to inner experience) and decentering (Garland et al., 2017), it was expected that decentering would be associated with more coping flexibility.

1.2.3 Decentering and interpersonal stress and coping. Decentering was also expected to be associated with interpersonal stress and coping responses. Interpersonal stress is common and can be quite distressing, involving a range of problems from conflict to rejection and loss (Johnson et al., 2018). Research on decentering has just begun to be applied to responses to interpersonal stress (Ayduk & Kross, 2010; Laurent et al., 2016), and is showing promise as an individual skill that can be taught and practiced, with potential positive benefits for interpersonal relationships when dealing with interpersonal stress. Additionally, the type of coping responses used when dealing with stress may also be important for distress reduction. Two of the most widely recognised coping responses for dealing with interpersonal stress are 'approach' or '*engagement*' and 'avoidance' or '*disengagement and involuntary*' coping (Roth & Cohen, 1986). Engagement coping involves cognitive and emotional activity orientated towards the stressor or conflict (e.g., positive reappraisal, problem solving, emotional regulation, and acceptance) whilst disengagement and involuntary coping is orientated away from the stressor (e.g., emotional numbing, denial, escapism, and inaction; Connor-Smith et al., 2000). Whilst research has found successful management of interpersonal stress involved more engagement and less disengagement and involuntary coping (Coleman et al., 2014; Kuster et al., 2017), no studies have explored whether decentering is associated with these coping styles in relation to interpersonal stress. A search of literature did however find a study examining mindfulness and coping styles in academic stress. Donald and Atkins (2016) found during perceived high levels of academic stress, processes of decentering, namely meta-awareness and cognitive defusion, were found to be associated with less disengagement coping and more engagement coping respectively, compared to controls. As such, we expect in our study that a greater capacity for decentering will be associated with greater engagement and less disengagement and involuntary coping.

1.3 The Current Study

Theory identifies decentering as a trait or capacity associated with more positive responding to stressful events, which includes more effective and productive ways of coping with stress, and more positive wellbeing; some research supports these propositions (Garland et al., 2009; Hayes-Skelton & Graham, 2013, Hayes-Skelton & Lee, 2018; O’Toole et al., 2019). Whilst past research findings are promising, it is not known whether decentering is associated with coping self-efficacy, coping flexibility, and engagement or disengagement/involuntary coping responses to interpersonal stress. Moreover, only one other study has addressed the measurement of decentering based on the metacognitive processes model (Bernstein et al., 2015) using survey techniques (see Hanley et al., 2020). Thus, the primary study aim was to test, as proposed in theory (Bernstein et al., 2015; 2019; Hanley et al., 2020), whether individuals higher in the trait of decentering also report more coping efficacy and flexibility, and more adaptive stress and coping responses. It was hypothesized that decentering would be associated with (1) more coping self-efficacy and coping flexibility, (2) less interpersonal stress, and (3) more constructive coping responses to interpersonal stress (i.e., more engagement coping, and less disengagement and involuntary coping responses). A preliminary purpose, however, was to test the factor structure of a set of three measures purposefully selected to tap the 3-process model of decentering (meta-awareness, disidentification from internal experiences, and reduced reactivity to thought content).

Two studies were conducted. The first study examined the factor structure of three decentering measures using exploratory factor analysis (EFA) with the purpose of determining whether factors aligned with the 3-process model (Bernstein et al., 2015; 2019). The second study examined the unique associations of decentering with coping self-efficacy, coping flexibility, and interpersonal stress and coping responses.

2. Study 1a

The purpose of Study 1 was to add to the emerging considerations of how to conceptualize and measure decentering, as a trait that can aid more positive responding to stress and be optimized through interventions and treatments. This was done by exploring the factor structure of items on three measures that represent the 3-process model of decentering (Bernstein et al., 2015, 2019) and have been used to assess decentering in past research (e.g., Fresco et al., 2007; Gillanders et al., 2014; Zettle et al., 2018).

2.1. Method

2.1.1 Participants. In total, 884 participants completed a survey for Study 1a and Study 1b. One-half of these participants were randomly selected for the exploratory analyses in Study 1a and the other 50% were held for the confirmatory factor analysis and hypothesis testing in Study 1b. Thus, participants in Study 1a were 442 university students (60% female, M_{age} = 21.7 years, SD = 5.1). Most were aged 25 and under (86%). The students endorsed white European (68.3%), Asian (20.1%), Australian First Peoples, Pacific Islander or Torres Strait Islander (4.1%) or “other” ethnicity (7.5%). Living arrangements of participants included living with parents (46.2%), living with roommates (32.4%), living with a partner (13.6%), or other (7.2%). Three additional participants attempted the questionnaire but were not included because of excessive missing data.

2.1.2 Measures. Three measures (28 items) assessed decentering as (a) meta-awareness, (b) disidentification from internal experiences, and (c) reduced reactivity to thought content. Meta-awareness and disidentification from internal experiences were measured with the 11-item Experiences Questionnaire (EQ; Fresco et al., 2007; e.g., “I can separate myself from my thoughts and feelings”) and the 10-item Self-as-Context Scale (SAC; Zettle et al., 2018). EQ items were rated from 1 (*never*) to 5 (*all the time*), with all items worded to reflect more decentering. The SAC contains four items described as measuring centering (e.g., “when I am upset, I am able to find a place of calm within myself”), and six items described as measuring transcending (“I am able to access a perspective from which I can notice my thoughts, feelings, and emotions”). Item response options ranged from 1 (*strongly disagree*) to 6 (*strongly agree*), with all items worded to reflect more decentering. Reactivity to thought content was measured with the 7-item Cognitive Fusion Questionnaire (CFQ; Gillanders et al., 2014; e.g., “my thoughts cause me distress or emotional pain”). CFQ items were rated on a 7-point scale from 1 (*never true for me*) to 7 (*always true for me*), with all items worded to reflect more reactivity (i.e., less decentering). See Results for psychometric details.

2.1.3 Procedure. Griffith University’s Human Research Ethics Committee approved the study (GU Ref No: 2019/178). Participants were recruited in person within common areas on the university campus (e.g., coffee shops, library) during the week before the commencement of the first school term (orientation week) and in the first week of term. Participants completed a hard copy of the survey under the supervision of a research assistant and received a small incentive (e.g., chocolate bar) for participation. The survey took approximately 10 minutes to complete.

3. Study 1a Results

Prior to conducting EFA using principal axis factoring (PAF) with oblique rotation, data were examined for missing values, input errors, and unusual scores or ranges. Little’s MCAR test was not significant (p = .717) indicating that missing data (0.79% of cases) were completely at random. Given the very small amount of missing data, missing values were replaced with mean values for that item.

KMO (.946) and Bartlett's test of sphericity ($p < .001$) verified the factorability of the 28 decentering items. Each item was correlated more than .47 with at least one other item, and no items were correlated over .74 with each other. Thus, all items were retained for the initial factor analysis.

In the initial factor analysis, the number of factors to extract was determined by an eigenvalue over 1. This criterion resulted in the extraction of three factors (eigenvalues = 35.22, 11.69, and 6.73) explaining 54% of the variance in the items (see Table 7.1). The three factors had sums of squared loadings ranging from .31 to .72. The factors conformed to the three different measures (the EQ, the SAC, and the CFQ), apart from four items from the SAC that loaded on the first factor with items from the EQ.

The first factor was labelled *observer perspective*, and items aligned with *two of the three metacognitive processes* identified in the decentering model, including meta-awareness and disidentification from internal experience. Eleven items from the EQ and four items from the SAC centering subscale loaded highly on this factor (.30 to .71), with minimal loadings on the other two factors (-.00 to -.29) (see Table 7.1). The second factor aligned with the third element of the decentering model, which was labeled *reactivity to thought content*. Items from the 7-item CFQ loading highly (.73 to .89) on this second factor, with small loadings on the other two factors (.00 to .09). Thus, the first two factors incorporated all three elements identified in the decentering model.

The third factor, which did not align with any component on the 3-process model of decentering, was labelled *transcendent life reflection*. This factor had high loadings for six items from the SAC Transcending subscale (|-.49| to |-.79|), with small loadings on the other two factors (.00 to .27).

Table 7.1

Study 1a Results of Exploratory Factor Analyses of the EQ, SAC, and CFQ Items (N = 442)

		PAF 28 items			PAF 24 items		
Scale	Item	OP	RRT	TLR	OP	RRT	TLR
EQ2	observe unpleasant feelings without being drawn into them	.71			.67		
EQ7	can slow my thinking at times of stress	.67			.65		
EQ5	can separate myself from my thoughts and feelings	.66			.64		
EQ8	can actually see that I am not my thoughts	.66			.65		
EQ9	am consciously aware of a sense of my body as a whole	.65			.67		
EQ3	don't take difficulties so personally	.63			.61		
EQ10	can take time to respond to difficulties	.57			.58		
EQ11	view things from a wider perspective	.55			.55		
EQ6	sense that I am aware of what is going on	.54			.55		
EQ1	accept myself as I am	.52			.50		
EQ4	treat myself kindly	.52			.51		
SAC6	able to notice changing thoughts without getting caught up in them	.47					--
SAC5	allow emotions to come and go without struggling with them	.43					--
SAC2	perspective on life allows me to deal with disappointments	.33					--
SAC1	when I am upset, I am able to find a place of calm within myself	.30					--
CFQ4	struggle with my thoughts		.88			.89	
CFQ6	tend to get very entangled in my thoughts		.87			.87	
CFQ5	get upset with myself for having certain thoughts		.85			.84	
CFQ7	struggle to let go of upsetting thoughts even when it would be helpful		.80			.80	
CFQ2	get caught up in thoughts that I am unable to do		.77			.76	

CFQ3	over analyse situations to the point where it's unhelpful to me		.75			.74	
CFQ1	thoughts cause me distress or emotional pain		.73			.73	
SAC4	look back on life, have a sense that part of me has been there for all			-.79			-.77
SAC8	been many changes in my life, aware a part of me has witnessed it all			-.79			-.80
SAC3	despite changes in my life, part of who I am remains unchanged			-.70			-.68
SAC10	when was younger, recognize part of me was there then is still here			-.68			-.68
SAC7	sense of self doesn't change even though my thoughts and feelings do			-.64			-.63
SAC9	access perspective which I notice my thoughts, feelings, and emotions			-.50			-.50
Eigenvalue		9.86	3.27	1.89	8.51	3.19	1.88
% variance explained		35.2	11.7	6.7	35.5	13.3	7.8
Cronbach's α		.90	.93	.86	.88	.93	.86

Note. Factor loadings extracted using Principal Axis Factoring (PAF) with Oblimin rotation. Loadings of .30 and under were suppressed. Kaiser-Meyer-Olkin (KMO) = .941, Barlett's $p < .001$. EQ = Experiences Questionnaire. SAC = Self-As-Context Questionnaire. CFQ = Cognitive Fusion Questionnaire. OP = Decentering: objective perspective – includes items that tap meta-awareness and disidentification from internal experience. RRT = Decentering: regulated reactivity to thought content. TLR = Transcendent life reflection

Given that 24 of the 28 item loadings were .50 or above, a second PAF was conducted after removing the four items on the observer perspective factor with loadings below .50 (all originally from the SAC). In this analysis, the total variance in items accounted for by three factors was 57% and factor loadings remained similar to those reported above (see Table 7.1). Cronbach's α for the 11 items that loaded highly on observer perspective was .88, whereas Cronbach's α for the 7 items that loaded highly on reactivity to thoughts was .93, and Cronbach's α for the 6 items that loaded highly on transcendent life reflection was .86.

Composite scores were formed by averaging the items that loaded highly on each of the three factors. To be consistent with the definition of decentering, items on the reactivity to thought content were reversed and the composite score was labelled *regulated reactivity to thought content*. The three subscale scores were positively interrelated. Observer perspective was significantly positively associated with regulated reactivity to thought content ($r = .50$, $p < .001$) and transcendent life reflection ($r = .49$, $p < .001$). Regulated reactivity to thought content and transcendent life reflection were also positively associated ($r = .25$, $p < .001$).

4. Study 1b

The purpose of Study 1b was to confirm the three factors of observer perspective, regulated reactivity to thought content, and transcendent life reflection found in Study 1a, and to test hypothesized associations of decentering (observer perspective and regulated reactivity to thought content) with coping self-efficacy and flexibility, and stress and coping responses. The third factor, transcendent life reflection was also examined to test its association with decentering, as well as with other measures.

4.1 Study Method

4.1.1 Participants. Participants were 442 university students (54% female, M_{age} = 21.4 years, *SD* = 4.7). Participants endorsed white Caucasian (65.2%), Asian (24.2%), Australian First Peoples, Pacific Islander or Torres Strait Islander (2.7%), or "other" ethnicity (7.9%). Education level of participants included year 12 (54.8%), high school diploma (15.8%), some undergraduate university study (21.5%), and some postgraduate university study (6.3%). Living arrangements of participants included living with parents (47.7%), living with roommates (33.9%), living with partner (10.9%), or other (7.2%). Two participants were removed due to excessive missing data.

4.1.2. Measures

4.1.2.1. Decentering. The same three measures in Study 1a were completed in Study 1b to measure decentering. See Results for psychometric details.

4.1.2.2. Coping efficacy. Coping efficacy was measured using the 13-item Coping Self-Efficacy Scale (CSE; Chesney et al., 2006). The CSE includes items relevant to (1) problem-focused coping (six items: e.g., break an upsetting problem down into smaller parts), (2) stopping unpleasant emotions and thoughts (four items: e.g., make unpleasant thoughts go away), and (3) getting support from friends and family (three items: e.g., get friends to help you with the things you need). Items are rated on an 11-point scale from 0 (*cannot do at all*), 5 (*moderately certain can do*) and 10 (*certain can do*). An overall composite CSE score was created by averaging all items so higher scores indicated more coping self-efficacy, Cronbach's α = .88.

4.1.2.3. Coping flexibility. Coping flexibility was measured with six items from the Self-Perceived Flexible Coping with Stress Scale (Zimmer-Gembeck et al., 2018), which assessed multiple coping strategy use (MCSU; e.g., "I can come up with lots of ways to make myself feel better if I am stressed"). Item responses ranged from 1 (*not at all true*) to

7 (*totally true*). A total score was created by averaging the items so higher scores represented more coping flexibility, Cronbach's α = .90.

4.1.2.4. Interpersonal stress. Stress in interpersonal relationships (e.g., rejection, teasing, conflict) was measured using items The Responses to Stress Questionnaire – Social Stress Version (RSQ; Connor-Smith et al., 2000). Participants were asked to rate how stressful 12 social relationships and interactions had been in the past six months (e.g., fighting with other people) on a 4-point scale from 1 (*not at all or a little*) to 4 (*extremely*). Items were averaged so higher scores indicated more interpersonal stress. The original stress items were slightly changed to refer to people rather than kids. The coping items did not require any changes.

4.1.2.5. Coping with interpersonal stress. Measured coping responses included engagement coping, and a composite of disengagement and involuntary coping. Engagement coping included problem solving, emotion regulation, acceptance, and cognitive restructuring, which are often associated with better mental health (Connor-Smith et al., 2000; Freire et al., 2020). Disengagement coping and involuntary coping are made up of a range of less adaptive coping responses, including distraction, denial, and wishful thinking (Freire et al., 2020; Kuster et al., 2017). After a written prompt to ask participants to think about interpersonal stressors they had recently experienced (e.g., "Now, please think of all the stressful parts of problems with other people that you indicated above, answer the following about how you generally respond…"), these coping responses were measured with the 57-item Responses to Stress Questionnaire – Social Stress Version (RSQ; Connor-Smith et al., 2000). Items tapped (1) engagement coping (18 items; e.g., I try to think of different ways to change or fix things, I tell myself that I can get through this, or that I will be okay or do better next time), (2) disengagement coping (12 items; e.g., I try not to feel anything, I wish that I were stronger and less sensitive so that things would be different), and (3) involuntary responses (27 items; e.g., I can't stop thinking about how I am feeling, I don't feel anything at all, it's like I have no feelings). Items were rated from 1 (*not at all or a little*) to 4 (*extremely*). As a measure of constructive coping, responses to engagement items were averaged to form a total score with higher scores indicating more engagement coping, Cronbach's $\alpha = .82$. As a measure of maladaptive coping and responses, responses to disengagement coping and involuntary items were averaged with higher scores indicating more disengagement coping / involuntary responses, Cronbach's $\alpha = .93$.

4.1.3. Procedure. The same procedure used in Study 1a was used in Study 1b.

4.1.4. Overview of Analyses. The 24 items from the final PAF in Study 1a were subjected to confirmatory factor analysis (CFA) using AMOS v26.0 to confirm the three-factor structure. Several indices were used to determine the overall fit of the model including the χ^2-test and the ratio of the χ^2 to the degrees of freedom, the Comparative Fit Index (CFI; Bentler, 1990), and the Root Mean Square Error of Approximation (RMSEA; Browne & Cudeck, 1992). Good fit for these indices were a ratio of 2 for the χ^2 ratio test, a value of .95 or above for the CFI, and a value $< .06$ for RMSEA (Schreiber et al., 2006). Correlations and multiple linear regressions were estimated using SPSS Version 25.0 to test the zero-order and unique associations of observer perspective, regulated reactivity to thought content, and transcendent life reflection with measures of stress and coping.

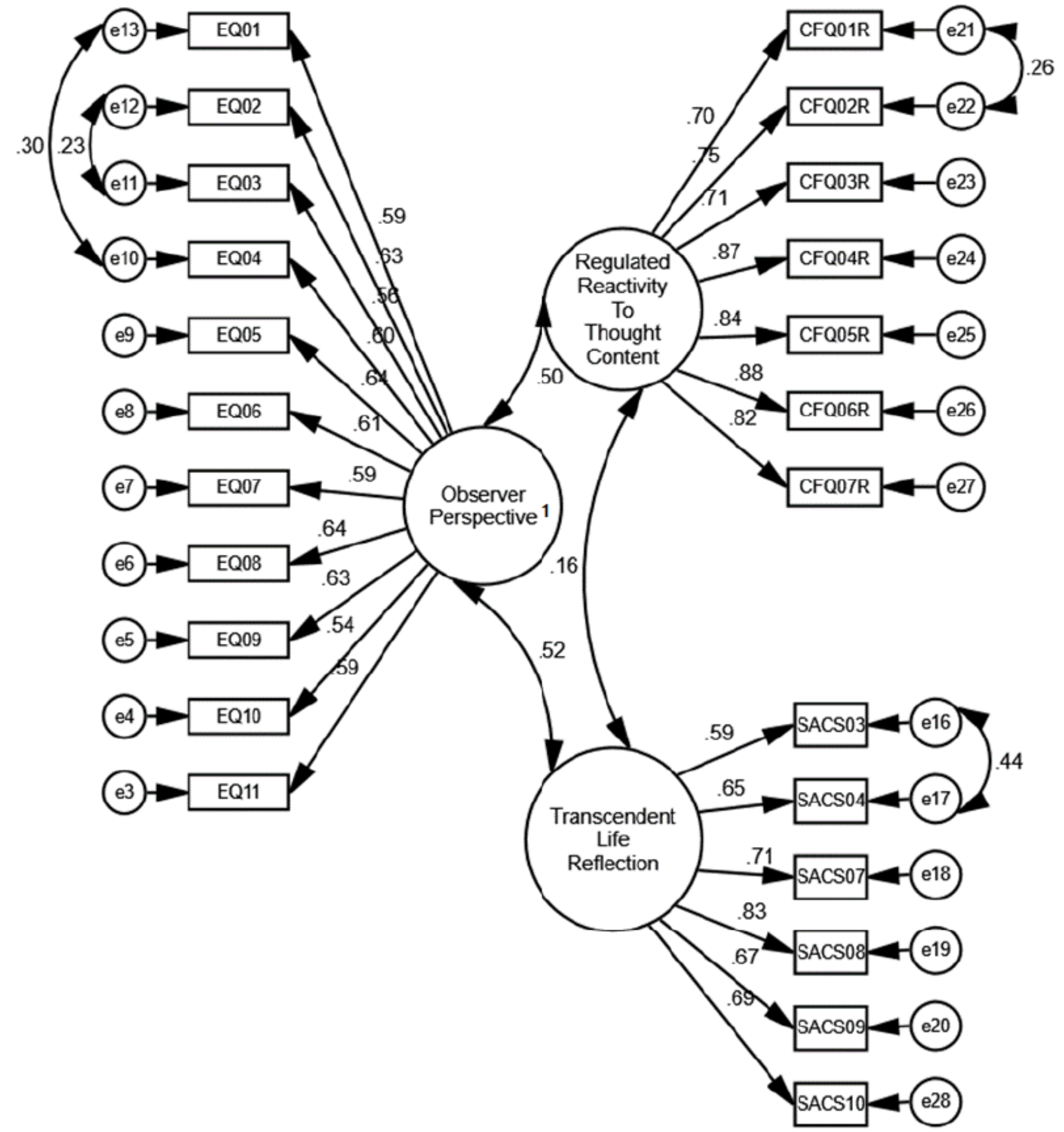
5. Study 1b Results

5.1. Confirmatory Factor Analysis

The 3-factor structure of the 24 items maintained in the final PAF in Study 1a was confirmed using AMOS software with maximum likelihood estimation. Standardized factor loadings are shown in Figure 7.1. After freeing four covariances between item errors

Figure 7.1

Results of the Confirmatory Factor Analysis of Decentering and Transcendent Life Reflection (N = 442)



Note. [1]Includes items that tap meta-awareness and disidentification from internal experience.

for items on the same factor that had similar meaning, model fit to the data was good, $\chi^2(245) = 518.81$, $p < .001$ ($\chi^2/df=2.1$), CFI = .95, and RMSEA= .050 (90% CI .044-.056), $p = .454$.

5.2. Associations of Decentering and Transcendent Life Reflection with Stress and Coping

5.2.1. Correlations. As expected, there were significant positive correlations of decentering, both observer perspective and regulated reactivity to thought content, with coping self-efficacy and coping flexibility (see Table 7.2). Age was not associated with decentering, but females reported more decentering than males. There were also positive correlations of transcendent life reflection with coping self-efficacy and coping flexibility, but age and gender were not associated with transcendent life reflection.

As expected, there were significant and negative correlations of decentering, both observer perspective and regulated reactivity to thought content, with interpersonal stress and disengagement and involuntary coping with interpersonal stress (see Table 7.2). Furthermore, there was a significant positive association of observer perspective with engagement coping. For transcendent life reflection, it was negatively associated with interpersonal stress and disengagement coping and involuntary responses to interpersonal stress, and positively associated with engagement coping.

5.2.2. Regressions. When measures of coping efficacy, coping flexibility, and interpersonal stress and coping were each regressed on the two decentering subscales and transcendent life reflection, the independent variables accounted for between 10% and 48% of the variance in the dependent variables (i.e., R^2 = .10 to .48; see Table 7.3). Observer perspective was uniquely associated with all stress and coping measures in the

Table 7.2

Study 1b Correlations of the Two Decentering Subscale Scores and Transcendent Life Reflection with All Measures (N = 442)

	Decentering: Observer Perspective[1], *r*	Decentering: Regulated Reactivity to Thought Content, *r*	Transcendent Life Reflection, *r*
Coping flexibility	.55***	.33***	.24***
Coping self-efficacy	.64***	.40***	.34***
Interpersonal stress (IS)	-.30***	-.42***	-.15**
Engagement coping with IS	.20***	.03	.30***
Disengagement / involuntary coping with IS	-.40***	-.68***	-.20***
Age	.08	.04	.01
Gender (1 = male, 2 = female)	-.22***	-.11*	-.01

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

[1]Includes items that tap meta-awareness and disidentification from internal experience.

Table 7.3

Results of Regressing Stress and Coping Measures on Two Subscales of Decentering and Transcendent Life Reflection (N = 442)

	Dependent variables							
	Coping self-efficacy				Coping flexibility			
Independent variables	*B*	*SE*	β	*p*	*B*	*SE*	β	*p*
Decentering: Observer perspective[1]	1.29	0.11	.54	<.001	0.95	0.09	.50	<.001
Decentering: Regulated reactivity to thought content	0.16	0.04	.15	<.001	0.08	0.04	.10	.033
Transcendent life reflection	0.13	0.07	.07	.070	-0.00	0.06	-.00	.960
	Interpersonal stress				Engagement coping			
Decentering: Observer perspective[1]	-0.11	0.05	-.11	.049	0.08	0.04	.11	.049
Decentering: Regulated reactivity to thought content	-0.17	0.02	-.37	<.001	-0.02	0.01	-.06	.259
Transcendent life reflection	-0.04	0.04	-.05	.283	0.14	0.03	.26	<.001
	Disengagement / involuntary coping							
Decentering: Observer perspective[1]	-0.07	0.04	-.09	.048				
Decentering: Regulated reactivity to thought content	-0.23	0.01	-.63	<.001				
Transcendent life reflection	-0.04	0.02	-.07	.081				

Note. Coping self-efficacy: $F(3, 438) = 151.42$, $R^2 = .43$, $p < .001$. Coping flexibility: $F(3, 438) = 64.46$, $R^2 = .31$, $p < .001$. Interpersonal stress: $F(3, 438) = 35.19$, $R^2 = .19$, $p < .001$. Engagement coping: $F(3, 438) = 16.36$, $R^2 = .10$, $p < .001$. Disengagement/involuntary coping: $F(3, 438) = 133.13$, $R^2 = .48$, $p < .001$.

[1]Includes items that tap meta-awareness and disidentification from internal experience.

hypothesized directions, with particularly strong unique positive associations with coping self-efficacy ($\beta = .54$, $p < .001$) and coping flexibility ($\beta = .50$, $p < .001$), but also a positive association with engagement coping ($\beta = .11$, $p = .049$) and a negative association with interpersonal stress ($\beta = -.11$, $p = .049$) and disengagement coping and involuntary responses ($\beta = -.09$, $p = .048$). Regulated reactivity to thought content was associated with all stress and coping measures, except engagement coping. All associations were in the hypothesized directions with particularly strong negative associations of regulated reactivity to thought content with interpersonal stress ($\beta = -.37$, $p < .001$) and disengagement and involuntary coping ($\beta = -.63$, $p < .001$), but also positive associations with coping self-efficacy ($\beta = .15$, $p < .001$) and coping flexibility ($\beta = .10$, $p = .033$). Finally, transcendent life reflection had a unique positive association with engagement coping ($\beta = .26$, $p < .001$).

6. Discussion

Following exploring and confirming of three measures (i.e., EQ, SAC, and CFQ) used in past research to assess decentering aligned with the three components of the metacognitive processes model of decentering (i.e., meta-awareness, disidentification from internal experiences, and reduced reactivity to thought content; Bernstein et al., 2015; 2019), the primary aim of the present study was to test whether decentering is associated with personal coping capacity and stress coping responses. Specifically, decentering was expected to be associated with more coping efficacy and coping flexibility, less interpersonal stress, and more use of constructive (and less use of what are usually considered problem) coping responses to interpersonal stress. Coping with interpersonal stress was considered because experimental research has reported benefits of decentering for constructive responses to interpersonal stress (Ayduk & Kross, 2010; Laurent et al., 2016).

6.1. Measurement of Decentering

When the factor structure of existing measures used to assess decentering were factor analyzed in the first study, three factors were found. Two of these factors aligned with the 3-process model of decentering (*observer perspective* tapping decentering elements of meta-awareness and disidentification from internal experience, and *regulated reactivity to thought content*; Bernstein et al., 2015; 2019), whilst six items from one measure (SAC) loaded highly on a third factor. This third factor was not aligned with the three components of the decentering model and based on item content and commonality, was labeled transcendent life reflection. These items all tapped self-reflection on the past or reflection on life changes, which differentiated it from the process of disidentification and a nonreactive stance to personal thought content (i.e., observer perspective). Notably, items that tapped meta-awareness were not differentiated from disidentification from internal experienced in our factor analysis. Naragon-Gainey and DeMarree (2017) argue, and we concur, that some level of meta-awareness may be necessary for greater disidentification from internal experience (or vice versa) – with both relevant to the capacity to take an observer perspective. Therefore, meta-awareness and disidentification from internal experience may be interrelated, potentially explaining why we found that items aligned with these two decentering components loaded on a single factor. Furthermore, Bernstein et al. (2019) describe the possible limitations of self-report for measuring meta-awareness (and other decentering processes). It is possible that multiple reporters might be necessary to differentiate meta-awareness from disidentification from internal experience. Additionally, it is possible the ‘meta-awareness’ factor identified in Hanley et al. (2020) may indeed be measuring the awareness of ‘content’ in the mind rather than its ‘process’ as defined in meta-awareness (Bernstein et al., 2015).

The two factors of observer perspective and regulated reactivity to thought content found in the present study are generally consistent with the findings of another study (Hanley et al., 2020) that modified items drawn from multiple decentering measures (i.e., EQ, FFMQ, SAC, TMS) to also address best practice for measuring decentering. In this previous study, some items overlapped with the items included here, and the correlation between two decentering factors (i.e., [dis]identification with internal experience and [non]reactivity to internal experience) of $r = .57$ ($p < .001$) was similar to what was found in the present study. When comparing item loadings on factors in this study relative to Hanley et al. (2020), item valence differed in some cases, which could explain some differences in factor analysis findings between the present and this previous study. Item valence has been found to impact on factor analysis results, interpretation, and social desirability response bias (Seng Kam & Meyer, 2015). Nonetheless, the present research adds evidence useful for moving forward discussion about decentering conceptualization and measurement.

6.2. Decentering: Associations with Efficacy, Flexibility, and Stress and Coping Responses

6.2.1. Coping efficacy and flexibility. The results showed that participants who endorse a greater capacity for an observer perspective and who regulated reactivity to thought content are higher in coping self-efficacy and flexibility. Thus, individuals who perceive they have a greater capacity for decentering also report feeling more efficacious when they need to cope with stress and perceive they have a wider toolbox of options for coping with a stressor (i.e., report more coping flexibility). Moreover, the capacity to take an observer perspective has the strongest unique positive associations with coping efficacy and flexibility in the multivariate models. The capacity to take an observer perspective has been described as ‘seeing the forest for the trees’ (Trope & Liberman, 2010). Thus, the findings here suggest this capacity to be meta-aware and disidentify from experience (to take an observer perspective) can yield more confidence and flexibility when coping with stressful events. Although no previous research has examined associations of decentering with coping efficacy and flexibility, the associations found here are generally consistent with previous research studies that report associations of decentering (i.e. acting with awareness) with greater coping self-efficacy (Luberto et al. (2014), and decentering (i.e., disidentification with internal experiences) with broadened awareness and reappraisal self-efficacy (Garland & Frederickson, 2019; Garland et al., 2017).

6.2.2. Interpersonal stress and coping responses. Analyses were also conducted to examine the relationship between decentering, interpersonal stress, and coping responses. In support of theory (Coleman et al., 2014; Kuster et al., 2017) and study hypotheses, results showed that individuals who report a greater capacity for decentering via an observer perspective and regulating their reactivity to thought content perceive less interpersonal stress such as rejection, teasing, and conflict. Moreover, of particular note, when coping with interpersonal stressors, individuals who report they are better able to take an observer perspective also report more engagement coping - relying more on problem-solving, emotion regulation and expression, positive thinking, cognitive restructuring, and acceptance to cope with interpersonal stress.

Decentering is related to less use of maladaptive responses to interpersonal stress, also. Individuals who reported more ability to take an observer perspective and, especially, those who reported more ability to regulate their thought content reported relying less on avoidance, denial, rumination, distraction, or wishful thinking to cope with interpersonal stress. Thus, when considered together, the associations of decentering with more constructive and less maladaptive coping responses could be the result of the high-level vs. low-level construals that can occur when decentering is high vs. low, respectively. Low-level construals can instantiate the present and narrow the focus to concrete details of an individual's experience (Trope & Liberman, 2010) promoting more distress and rumination and reliance on disengagement and avoidance to cope with this distress (Connor-Smith et al., 2000). This suggests the ability to decenter, with different strength of associations for the capacity to take an observer perspective relative to reduced reactivity to thought content, overall yields less reactivity to interpersonal stressors and promotes more use of constructive and less use of maladaptive coping responses to interpersonal stress.

Notably, whereas theory suggests that the three components of decentering (meta-awareness, observer perspective, and regulated reactivity to thought content) all work together to enhance mental health (Bernstein et al., 2015), the findings here suggest that observer perspective and regulated reactivity to thought content differ in their patterns of unique associations with self-perceived coping efficacy and flexibility and ways of coping with interpersonal stress. In particular, it was the greater capacity to take an observer perspective, in contrast to the capacity for regulating thought content, that was most strongly linked with reports of greater coping self-efficacy and flexibility, and endorsement of using engagement coping. Whereas, in contrast, the capacity to regulate reactivity to thought content was strongly linked to less perceived interpersonal stress and less disengagement forms of coping. Thus, decentering – taking an observer perspective and the capacity to regulate reactivity to thought content – is associated with stress and coping but the former is more strongly related to an enhanced trait-level capacity for coping as well as adaptive (i.e., engagement) coping responses and the latter is more strongly related to lower stress reactivity and less maladaptive coping responses. These findings suggest that future studies of decentering, as a beneficial trait, should consider the capacity for taking an observer perspective (including meta-awareness and disidentification from internal experience) separate from the capacity for regulating thought content. It is possible that differential associations with other outcomes, such as wellbeing or psychopathology, could be found as has been shown in previous research where individuals with general anxiety disorder whose improvements in the observer perspective aspect of decentering was associated with reductions in anxiety symptoms (O'Toole et al., 2019).

6.3. Transcendent Life Reflection

Whilst transcendent life reflection did not align with the 3-process model of decentering (Bernstein et al., 2015), it was a factor represented by items from a measure that has been used to measure decentering. Furthermore, transcendent life reflection was associated with more endorsement of one positive coping measure, engagement coping, in the multivariate regression models. Participants who endorsed a greater transcendent state of self-awareness (i.e., an observational self) are higher in coping self-efficacy, coping flexibility, and engagement coping and are lower in disengagement and involuntary coping and interpersonal stress. Moreover, of observer perspective, regulated reactivity to thought content, and transcendent life reflection, it was the capacity for transcendent life reflection that had the strongest unique positive association with engagement coping in the multivariate model. Thus, individuals who identify with an observational self also report that they more often rely on problem-solving, emotion regulation and expression, positive thinking, cognitive restructuring, and acceptance to cope with interpersonal stress.

Whilst no previous research could be located that has examined the relationships between transcendent life reflection, interpersonal stress and coping, and coping responses, it has been theorised that transcending reflects perspective-taking and research shows that perspective taking is associated with greater psychological flexibility and less general psychological distress (Zettle et al., 2018). It is conceivable that an awareness of a distinct, enduring, transcendent, observing, and perspective-taking self can defuse from difficult experiences allowing for greater deployment of engagement coping strategies such as acceptance in response to interpersonal stress.

6.4. Study Limitations and Future Directions

The findings of this study have implications for future research, but also had limitations. First, this study offers a preliminary way forward in measuring decentering, specifically, the use of the EQ and the CFQ. However, the study was conducted in a single urban area of Australia and the findings may not be generalizable to other regions or countries. Thus, it is recommended that future research is conducted to replicate and extend these findings. Second, it is also noteworthy that all measures were self-reported. This might be of concern given that items both depend on and measure awareness and metacognitive processes. Non-self-report measures of decentering should be developed for use in future research. Third, this study was cross-sectional and causal relations or direction of effects between decentering and other measures could not be determined. Therefore, future research would benefit from longitudinal studies to examine whether decentering leads to a broadening of coping flexibility, responses, and self-efficacy or vice-versa.

7. Conclusion

The metacognitive processes of decentering, measured here as the capacity to take an observer perspective (which tapped meta-awareness and disidentification from internal experience) and the capacity to regulate reactivity to thought content, can be reliably measured by items from the Experiences Questionnaire (Fresco et al., 2007) and the Cognitive Fusion Questionnaire (Gillanders et al., 2014). Furthermore, these two components of decentering are associated with stress and coping beliefs and responses, but also differ when their unique associations with coping and stress responding are considered; taking an observer perspective is strongly associated with trait level coping flexibility and efficacy as well as more constructive engagement coping, whereas the capacity to regulate reactivity to thought content is strongly associated with less reactivity to interpersonal stress and less reliance on maladaptive coping responses. Overall, decentering is a skill or trait associated with better efficacy and flexibility for coping with stress and more constructive coping responses to interpersonal stress. Yet, there is more research needed to consider best practice in conceptualizing and measuring decentering in relation to the conceptualized metacognitive processes model of decentering (Bernstein et al., 2015; 2019), and there is more to investigate regarding how decentering benefits coping and other responses to stress.

Summary of Chapter 7 and Introduction to Chapter 8

To address the first aim of the current thesis, Study 1a was designed with the aim of identifying a 3-factor model of decentering that aligned with the metacognitive processes model of decentering (Bernstein et al., 2015). In this study, factor analyses were used to explore the factor structure of items from commonly used measures of decentering that aligned with the metacognitive processes model (as presented in Figure 2.1 shown in Chapter 2). Items loaded on two factors, labelled *observer perspective* (tapping two decentering elements of meta-awareness and disidentification from internal experience) and *regulated reactivity to thought content*. These two factors aligned with the metacognitive processes model. A third factor, represented by items not aligned with the metacognitive processes model of decentering, was labelled *transcendent life reflection*. In Study 1b, the factor structure was confirmed, and the second aim of the thesis was addressed by testing the unique associations of subscales formed to measure these three emergent decentering factors with coping and interpersonal stress in young adults. In Study 1b, decentering factors were associated with greater coping efficacy and flexibility, less use of disengagement/involuntary coping, and less perceived interpersonal stress. Observer perspective and transcendent life reflection were associated with more engagement coping. The findings supported decentering as a multidimensional construct that is associated with greater efficacy and more flexible and adaptive stress responding.

Building on the findings from Chapter 7, Chapter 8 contributes to the third aim of the thesis by focussing explicitly on the direct interrelations of decentering with young adults' ways of coping with romantic relationship stress, as well as examining associations between decentering, ways of coping, and relationship wellbeing, and the indirect relationships of decentering with relationship wellbeing via ways of coping. In this study, the unique associations of decentering with coping and wellbeing were highlighted by controlling for the known positive association of decentering with coping self-efficacy as found in Study 1b.

CHAPTER 8

Study 2: More Relationship Satisfaction and Less Conflict: Associations of Decentering via Ways of Coping with Romantic Relationship Stress

Chapter 8 includes a prepared manuscript ready to submit for publication and addressed the third research aim of this thesis (see Chapter 6). References for this chapter are included at the end of the thesis as part of a full reference list. The aim of Study 2 was to focus explicitly on the interrelationships of the metacognitive processes of decentering with young adults' romantic relationship stress and wellbeing directly and indirectly via ways of coping.

Statement of Contribution to a Co-authored Paper

This chapter includes a co-authored paper that has been prepared to submit for publication. The details of this co-authored paper, including all authors are:

Duncan, N. S., Zimmer-Gembeck, M. J., & Gardner, A. A. More relationship satisfaction and less conflict: Associations of decentering via ways of coping with romantic relationship stress.

My contribution involved:

- Review of the extant literature
- Co-development of study aims and hypotheses
- Selection of measures to include in the study
- Co-development of research design, data collection, and entry of data
- Conducting preliminary and primary analyses
- Writing and editing drafts of the overall manuscript

____

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Abstract

Decentering is a multidimensional metacognitive process that includes meta-awareness, disidentification from internal experience, and reduced reactivity to thought content. Theory and research suggest that decentering fosters more adaptive ways of coping with stress. It is coping, in turn, that is thought to promote better wellbeing. The study aim was to test whether metacognitive processes of decentering were direct and indirect correlates (via ways of coping) of romantic relationship wellbeing. Participants were 357 university students (67% female, age M = 24.7 years) who reported a monogamous romantic relationship of 2 to 5 years. Students completed surveys to report their decentering; engagement and disengagement coping with relationship stress; relationship conflict, conflict resolution, and satisfaction; and coping self-efficacy. Across bivariate and multivariate analyses, decentering (at least one process) was associated with better relationship wellbeing (i.e., less conflict and higher resolution and satisfaction), more positive coping (higher engagement and lower disengagement), and higher coping self-efficacy. Two metacognitive processes of decentering, meta-awareness and regulated reactivity to thought content, were indirectly associated with greater relationship wellbeing by way of less disengagement coping. Overall, decentering processes of meta-awareness and regulated reactivity to thought content have unique positive associations with better relationship wellbeing directly and indirectly via less disengagement coping even after adjusting for the strong positive associations between decentering and coping self-efficacy.

Keywords: decentering, coping, emotion regulation, romantic relationship stress, relationship satisfaction.

More Relationship Satisfaction and Less Conflict: Benefits of Decentering via Ways of Coping with Romantic Stress

Committed and satisfying romantic relationships are foundational to better mental wellbeing and general health (e.g., Lawrence et al., 2019). However, not all romantic unions are satisfying as many involve high levels of conflict and end in dissolution; with for example, 1.9 divorces per 1,000 people in Australia occurring in 2020 (Australian Bureau of Statistics [ABS], 2020). Relationship dissolution was attributed to conflictual communication and other communication problems for over a quarter of Australian couples who divorced in 2019 (ABS, 2020). Similar findings can be found in the USA where couples' conflictual communication reliably predicts relationship dissolution (Kanter et al., 2022).

Because communication problems and conflict within couples are significant interpersonal stressors, coping responses (such as problem-solving and emotion regulation strategies) are almost always required (Duncan et al., 2021). In turn, ways of coping used to address, solve, or reappraise relationship stressors can influence relationship wellbeing (Ayduk & Kross, 2010), making it important to identify the foundations of coping responses when relationship stressors occur. As described in the Transactional Theory of Stress and Coping (Lazarus & Folkman, 1984; 1987), person-level abilities, competencies or patterns can be important foundations of ways of coping with stressors. Decentering, defined as a complex multidimensional meta-ability that involves separating oneself from internal experience and moderating emotional reactions to personal thoughts, is a metacognitive process that naturally varies between persons. Notably, theory suggests that decentering should result in more constructive coping responses to stressful events, including romantic relationships stressors, and emerging empirical evidence provides support for these ideas (for a review see Bernstein, et al., 2015, 2019; Ayduk & Kross, 2010).

Decentering: Definition and its Role in Stress and Coping

Decentering is a personal trait that has a complex conceptualization. To capture this complexity, Bernstein et al. (2015) described decentering as three interrelated metacognitive processes comprising skills for shifting from a more subjective to objective perspective of the self and in interactions with others. The three processes include (1) meta-awareness, (2) disidentification from internal experience, and (3) reduced reactivity to thought content. Meta-awareness is defined as the explicit awareness of the content and process of personal consciousness (Schooler, 2002). Disidentification from internal experience, also called observer perspective, refers to the perceived ability to view internal states (thoughts or feelings) as if they were being observed by another, providing some separation or objective view (Kross et al., 2005). Disidentification from internal experiences involves mental construal, particularly high-level construal which allow for *abstract* interpretations, promoting awareness to what is consistent (or inconsistent) regarding an experience or object across contexts (Trope & Liberman, 2010). In this way, high-level construals or greater psychological distance is expected to foster the ability to 'see the forest for the trees'. Reduced reactivity to thought content refers to the perceived ability to moderate reactivity to thought content (Bernstein et al., 2015). It is theorised that the ability to shift attentional focus and broaden one's perspective increases the chance of reduced reactivity and perceiving aversive thoughts and experiences as potentially meaningful and growth promoting opportunities.

Decentering is a person-level capacity that aligns well with the Transactional Theory of Stress and Coping (Lazarus & Folkman, 1984; 1987). As described in this theory, stress and coping processes follow from individuals' appraisals and reappraisals of stressful events. Coping responses are tied to appraisals and serve to either change the stressful situation and/or modify cognitions and emotions to better adjust to stressors. Notably for considering the role of decentering, individual capacities or traits are thought to play a direct role in stress and coping processes, which then account for successful (or unsuccessful) resolution of stressors and, in turn, influence wellbeing (Duncan et al., 2021; Taylor & Stanton, 2007).

Just like decentering, coping is also multidimensional. This has resulted in many ways of classifying coping responses to stressful events (Skinner & Zimmer-Gembeck, 2007; 2011; Zimmer-Gembeck & Skinner, 2011), with engagement vs. disengagement (related to 'approach' vs. 'avoidance') a common two-category system used for classifying coping processes within conscious awareness when responding to stressful events (Compas et al., 2017; Connor-Smith et al., 2000). Engagement coping includes coping responses that are orientated towards the stressor (e.g., positive reappraisal, problem solving, emotional regulation, and acceptance). These can be cognitive, behavioural, or emotional strategies that are either focused on the environment or the self. Disengagement coping include responses that are orientated away from the stressor (e.g., denial, avoidance, and wishful thinking; Connor-Smith et al., 2000).

Decentering and Ways of Coping with Romantic Relationships Stressors

Research on decentering has just begun to be applied to understanding its impacts on coping and other responses to interpersonal stress (Ayduk & Kross, 2010; Duncan et al., 2021; Laurent et al., 2016). Past research is promising, with decentering found to be an individual capacity that can be taught and practiced, which is also related to improved emotion regulation, coping, appraisals of stress, and symptoms of depression and anxiety (Garland et al., 2017; Hayes-Skelton & Graham, 2013; Hoge et al., 2015; O'Toole et al., 2019). Such findings suggest that decentering could have potential positive benefits for coping with romantic relationship stress. Yet, empirical evidence is currently sparse. Two studies were located that had considered the role of decentering in romantic relationship functioning. In the first study, adults in a current romantic relationship provided repeated reports of stress and coping using ecological momentary assessment and they also participated in a laboratory experiment. The findings supported the view that decentering (considered here as observer perspective and reduced or regulated reactivity to thought content) was associated with partners' greater problem-solving capacity and less negative reciprocation during conflict (Ayduk & Kross, 2010). In a second study, young university students who reported greater observer perspective reported more concurrent forms of engagement coping with interpersonal stress, while students higher in observer perspective and regulation of thought content reported less frequent deployment of avoidant ruminative and disengagement forms of coping with peer relationship stress (e.g., rejection, teasing, and conflict; Duncan et al., 2021). Further, students higher in observer perspective and regulation of thought content perceived less frequent interpersonal stress. Together these two studies provide support for the role of decentering in romantic relationship functioning.

Coping Efficacy as a Covariate

In exploring the role of decentering in stress responding, it was relevant to consider other person-level factors that could be confounds when studying coping with romantic relationship stress, as well as relationship wellbeing. One possible confound is coping self-efficacy, given that it has been associated with more adaptive coping with stress (Delahaij & Van Dam, 2017) as well as decentering (Duncan et al., 2021). Coping self-efficacy refers to having confidence in one's own ability to effectively cope with difficult or threatening events (Chesney et al., 2006) which, according to self-efficacy theory (Bandura, 1997), is important because the belief in one's ability to execute a behaviour successfully influences an individual's engagement and level of effort exerted in that behaviour. Research has found that greater perceptions of coping self-efficacy have been associated with appraising a stressful event as more controllable and a challenge with less negative affective responding (Delahaij & Van Dam, 2017).

The Current Study

Decentering has been described as a trait or capacity associated with beneficial responding to stressful events, which includes more effective and productive ways of coping with stress, and more positive wellbeing (Duncan et al., 2021; Garland et al., 2009; Hayes-Skelton & Graham, 2013; Hayes-Skelton & Lee, 2018; O'Toole et al., 2019). Whilst these research findings are promising, the analyses extended the examination of decentering by considering how its three interrelated metacognitive processes (i.e., meta-awareness, observer perspective, and regulated reactivity to thought content) directly and indirectly relate with greater relationship functioning and adjustment directly and indirectly via coping (engagement and disengagement coping). Decentering was measured using psychometrically valid scales from previous research (Duncan et al., 2021) as the Metacognitive Processes of Decentering Scale (Hanley et al., 2020) was not available at the time of data collection. Because relationship functioning and adjustment have been operationalized in many ways, the focus was on three interrelated aspects of relationship wellbeing, namely, perceived relationship conflict, resolution of conflict, and relationship satisfaction. Given age and cohabitation length are positively associated with less negative affect and more collaboration during disagreement (Smith et al., 2009), the sample was limited to young adults who reported a current steady romantic relationship with a length of 2 to 5 years.

There were two hypotheses in this study. First, it was hypothesized that decentering would be associated with better romantic relationship wellbeing, that is, meta-awareness, observer perspective, and regulated reactivity to thought content would be associated with less relationship conflict and more relationship conflict resolution and satisfaction (H1). Second, it was hypothesized that the relations in H1 would be partially mediated by ways of coping with romantic relationship stressors (H2). More precisely, the capacity to decenter would be associated with more relationship conflict resolution and satisfaction, as well as less relationship conflict, by way of more engagement coping and less disengagement coping. To isolate the findings more specifically within the context of relationship stress, coping efficacy and relevant demographic measures were controlled for when examining the hypothesized relations.

Method

Participants and Procedure

Participants were 357 Australian university students (67% female, M_{age} = 24.7 years, *SD* = 4.1 years). Participants were White (81.8%), Australian First Peoples, Pacific Islander or Torres Strait Islander (2.2%), or "other" ethnic background (6.2%). Education level of participants included year 10 certificate (2.8%), year 12 completion (45.7%), diploma/trade certificate (32.5%), undergraduate university study (17.6%), and postgraduate university study (1.4%). Romantic relationships included male and female partners (95%), male and male partners (1.7%), female and female partners (2.2%), and non-binary partners (1.1%). Living arrangements of participants included living with their romantic partner (71.7%) or living with spouse/de facto (28.3%) with cohabitation ranging between 24 and 60 months (*M* = 35.32 months, *SD* = 11.80 months). As participants completed the survey online, the inclusion criteria of between 20-35 years of age and cohabiting with their partner for 2-5 years was not always adhered to and therefore another 210 participants, who did not meet the study criteria, were excluded from the current investigation.

Griffith University's Human Research Ethics Committee approved the study (GU Ref No: 2020/055). Participants were recruited during the first and second trimester of 2020 (i.e., during the first lockdown period of COVID-19) through a psychology student first year subject pool at an Australian University. Research eligibility criteria included age 20–35 years currently cohabiting with a romantic partner between 2-5 years. Upon completion of the online survey, first year psychology students received a 5% psychology course credit. Other university student participants, recruited via campus flyers, received a small gift voucher for participation. The survey was delivered online and included information outlining the study, expected benefits and risks of the research, confidentiality, voluntary participation, and contact details for feedback or further information. Consent was obtained through participation following the information sheet and the survey took approximately 20 minutes for participants to complete.

Measures

Decentering

Decentering was measured as: (a) meta-awareness, (b) disidentification from internal experiences [herein known as observer perspective], and (c) regulated reactivity to thought content. Meta-awareness was measured with the 15-item Mindful Attention and Awareness Scale (MAAS; Brown & Ryan, 2003; e.g., *"I could be experiencing some emotion and not be conscious of it until sometime later"*). MAAS items were rated from 1 (*never*) to 6 (*always*), with all items worded to reflect less capacity for meta-awareness. All MAAS items were reverse scored, and an overall composite MAAS score was created by averaging all items so higher scores indicated greater capacity for the decentering meta-cognitive process of meta-awareness, Cronbach's $\alpha = .87$. Observer perspective was measured with the 11-item Experiences Questionnaire (EQ; Fresco et al., 2007; e.g., *"I can separate myself from my thoughts and feelings"*). EQ items were rated from 1 (*never*) to 6 (*always*), with all items worded to reflect more observer perspective. An overall composite EQ score was created by averaging all items so higher scores indicated greater capacity for the decentering meta-cognitive process of observer perspective, Cronbach's α = .88. Regulated reactivity to thought content was measured with the 7-item Cognitive Fusion Questionnaire (CFQ; Gillanders et al., 2014; e.g., *"my thoughts cause me distress or emotional pain"*). CFQ items were rated on a 7-point scale from 1 (*never true for me*) to 7 (*always true for me*), with all items worded to reflect more reactivity to thought content. An overall composite CFQ score was created by reverse scoring and averaging all items so higher scores indicated greater capacity for the decentering meta-cognitive process of regulated reactivity to thought content, Cronbach's α = .94.

Coping with Romantic Relationship Stressors

Engagement (primary and secondary) and disengagement coping responses were measured with the three coping subscales (30 items) of the Responses to Stress Questionnaire (RSQ; Connor-Smith et al., 2000). Before completing the items, participants were prompted to consider stressful experiences specific to their romantic partner: *Everyone has challenges and stress that involves other people. When you think about stress or problems (such as conflict, pressures, jealousy, difficult conversations, lack of time together, choices, changes) within your current relationship with your partner, how do you feel and respond?* Items tapped: (1) engagement coping (21 items; e.g., "*I try to think of different ways to change or fix things", "I tell myself that I can get through this"*, or that "*I will be okay or do better next time"*), and (2) disengagement coping (9 items; e.g., "*I try not to feel anything", "I wish that I were stronger and less sensitive so that things would be different"*). Items were rated from 1 (*not at all or a little*) to 4 (*very much*). As a measure of constructive coping, responses to engagement items were averaged to form a total score with higher scores indicating more engagement coping, Cronbach’s α = .81. As a measure of maladaptive coping, responses to disengagement coping items were averaged with higher scores indicating more disengagement coping responses, Cronbach’s α = .83.

Romantic Relationship Conflict

Romantic relationship conflict was measured with six face-valid items created in previous research with Cronbach’s α = .83 (Gordon & Chen, 2016): *“Do you get where I’m coming from?”*, *"My partner and I have a lot of disagreements," "I feel like all my partner and I do is fight,"* "*There is a lot of conflict in my relationship," "I am often irritated by my partner," "My partner and I are always in agreement on major issues"* (reverse scored), and *"It is rare that my partner and I get in a big argument"* (reverse scored). Item responses ranged from 1 (*not at all*) to 7 (*completely*). A total score was created by averaging the items so higher scores represented more relationship conflict, Cronbach’s α = .88.

Relationship Conflict Resolution

Conflict resolution was measured with one item, “*Thinking about your most recent personal conflict with your partner, do you feel like the matter is resolved?*”, rated on a 7-point scale from 1 (*not at all*) to 7 (*completely*) with higher scores representing more resolution.

Romantic Relationship Satisfaction

Romantic relationship satisfaction was measured with 14 items from the Revised Dyadic Adjustment Scale (Busby et al., 1995). Items measure (1) consensus (six items e.g., *“demonstrations of affection”*), (2) satisfaction (four items e.g., *“how often do you discuss or have you considered ending your relationship”*, reversed), and (3) cohesion (four items e.g., work together on a project). Responses ranged from 1 (*never*) to 6 (*always*). A total score was created by averaging the items so higher scores represented more relationship satisfaction, Cronbach's α = .86.

Coping Self-efficacy

Coping self-efficacy was measured using the 13-item Coping Self-Efficacy Scale (CSE; Chesney et al., 2006). The CSE includes items relevant to (1) problem-focused coping (six items: e.g., *"break an upsetting problem down into smaller parts"*), (2) stopping unpleasant emotions and thoughts (four items: e.g., *"make unpleasant thoughts go away"*), and (3) getting support from friends and family (three items: e.g., *"get friends to help you with the things you need"*). Items are rated on an 11-point scale from 0 (*cannot do at all*), 5 (*moderately certain can do*) and 10 (*certain can do*). An overall composite CSE score was created by averaging all items so higher scores indicated more coping self-efficacy, Cronbach's α = .88.

Overview of the Data Analyses

Prior to conducting the primary analyses, data were examined for missing values, input errors, and unusual scores or ranges and nil were found. Variables were inspected for normality. Due to high skew (above cut-off ± 3.58; Mayers, 2013, p. 53) a transformation (square-root) was applied to measures of relationship conflict and relationship satisfaction. However, this had little impact on the results so untransformed variables were used in the analyses reported here. Correlations and multiple linear regressions were then estimated using SPSS Version 25.0 to test the zero-order and unique associations of decentering (i.e., meta-awareness, observer perspective, regulated reactivity to thought content) with measures of coping and romantic relationship wellbeing. Mediation analyses using PROCESS macro for SPSS, version 4.0, was used to examine the indirect effects of the three metacognitive processes of decentering on relationship wellbeing measures through ways of coping. Based on recommendation of Hayes (2017) and MacKinnon et al. (2007), a bootstrapping procedure using10,000 resamples was run to estimate the 95% confidence intervals. Standardized regression estimate (β) scores, squared-multiple correlations (R^2), and significance of indirect effects were assessed to interpret the results of the mediation analysis, with the effect criterion: 0.01 - 0.059 = small, 0.06 - 0.139 = moderate, and ≥ 0.14 = large (Cohen, 1988).

Results

Descriptive Statistics and Correlations Between All Measures

Means *(M*s), standard deviations (*SD*s), and Pearson correlations between the study variables are shown in Table 8.1. Regarding associations of the three metacognitive processes of decentering with coping, there was a significant positive association of observer perspective with engagement coping and all three metacognitive processes of decentering were negatively associated with disengagement coping with moderate strengths of effect. Also, metacognitive processes of decentering were associated with all three measures of relationship wellbeing in the expected directions.

In relation to coping self-efficacy and demographic variables, coping self-efficacy was significantly positively associated with all decentering measures, engagement coping, and relationship conflict resolution and satisfaction, and negatively associated with disengagement coping and relationship conflict. Age was positively associated with all metacognitive processes of decentering and coping self-efficacy and was negatively associated with disengagement coping. Length of cohabitation (in months) was positively associated with regulated reactivity to thought content and age.

Direct and Indirect Associations of Decentering with Measures of Relationship Wellbeing

To examine the direct and indirect associations of the three decentering processes with each of the measures of relationship wellbeing (i.e., conflict, conflict resolution, and relationship satisfaction), three hierarchical regression models were used to regress each of the three relationship measures on decentering, coping, coping self-efficacy, and age. Given significant associations of coping self-efficacy and age with other measures (see Table 8.1), age and coping self-efficacy were entered in Step 1, the three metacognitive processes of decentering were entered in Step 2, and engagement and disengagement coping measures were entered in Step 3. Process (Hayes, 2017) was then used to calculate indirect associations of decentering with each of the relationship wellbeing measures via each of the two ways of coping.

Relationship Conflict

Age and coping self-efficacy, entered in Step 1, accounted for 3% of the variance in relationship conflict, $F(2, 354) = 6.19$, $p = .002$ (see Table 8.2). Whilst age was not significantly associated with relationship conflict, there was a negative association between coping self-efficacy and relationship conflict. At Step 2, when the three metacognitive processes of decentering (i.e., meta-awareness, objective perspective, and regulated reactivity to thought content) were entered, the R^2_{change} was 5% and significant, $F_{change}(3, 351) = 6.69$, $p < .001$. Meta-awareness and regulated reactivity to thought content were each negatively associated with relationship conflict. Coping self-efficacy was no longer significant in this step.

At Step 3, when engagement and disengagement coping were entered, the R^2_{change} was 14% and significant, $F_{change}(2, 349) = 28.63$, $p < .001$. After this step, disengagement coping was the only significant correlate of conflict, with higher disengagement coping associated with more conflict.

Two of the six possible indirect associations (i.e., associations of the three metacognitive processes of decentering with relationship conflict via engagement and disengagement coping), were significant and negative. Higher meta-awareness and

Table 8.1

Means and Standard Deviations (SDs) of Measures and Correlations between Measures (N = 357)

		1	2	3	4	5	6	7	8	9	10	11	12
1	D meta-awareness	--											
2	D observer perspective	.37***	--										
3	D RRTT	.45***	.54***	--									
4	Engagement coping	.08	.37***	.10	--								
5	Disengagement coping	-.43***	-.37***	-.51***	.09	--							
6	Rel conflict	-.23***	-.14**	-.25***	-.02	.45***	--						
7	Conflict resolution	.16**	.21***	.26***	.09	-.40***	-.37***	--					
8	Rel satisfaction	.20***	.21***	.23***	.06	-.47***	-.71***	.56***	--				
9	Coping self-efficacy	.34***	.69***	.47***	.35***	-.31***	-.18***	.25***	.28***	--			
10	Age	.16**	.21***	.20***	-.01	-.19***	-.03	.03	-.01	.20***	--		
11	Gender	-.10	-.10	-.10	.02	.08	-.06	.03	.07	-.07	-.03	--	
12	Cohabitation	.06	.10	.11*	-.02	-.10	.02	.01	-.02	.04	.30***	-.01	--
	Mean	3.54	3.83	4.36	2.55	2.00	2.99	4.76	4.47	5.83	24.70	1.69	35.22
	SD	0.80	0.83	1.57	0.43	0.61	1.01	1.89	0.68	1.74	4.05	0.49	11.80

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

Note. D: Decentering. RRTT: regulated reactivity to thought content. Rel: relationships. The range for most measures was 1 to 7, with the exceptions of meta-awareness and relationship satisfaction which was 1 to 6. Coping strategies were 1 to 4. Coping self-efficacy was 1 to 10. Cohabitation was 24 to 60 months.

Table 8.2

Results of Regressing Relationship Conflict on Decentering and Coping Measures (N = 357)

	Relationship conflict			
Independent variables	*B*	*SE*	β	*p*
Step 1				
Age	0.00	0.01	.01	.890
Coping self-efficacy	-0.11	0.03	-.19**	.001
Step 2				
Age	0.01	0.01	.04	.496
Coping self-efficacy	-0.06	0.04	-.11	.135
Decentering: Meta-awareness	-0.19	0.07	-.15*	.011
Decentering: Observer perspective	0.09	0.09	.07	.344
Decentering: Regulated reactivity to thought content	-0.11	0.04	-.18**	.007
Step 3				
Age	0.02	0.01	.06	.207
Coping self-efficacy	-0.06	0.04	-.10	.154
Decentering: Meta-awareness	-0.06	0.07	-.05	.395
Decentering: Observer perspective	0.16	0.09	.13	.072
Decentering: Regulated reactivity to thought content	-0.02	0.04	-.03	.634
Engagement coping	-0.15	0.13	-.06	.237
Disengagement coping	0.74	0.10	.45***	<.001

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

Note. Relationship conflict: Step 1 $F(2, 354) = 6.19$, $R^2 = 0.03$, $p = .002$. Step 2 $\Delta F(3, 351) = 6.69$, $\Delta R^2 = 0.05$, $p < .001$. Step 3 $\Delta F(2, 349) = 28.63$, $\Delta R^2 = 0.14$, $p < .001$. Final model $F(7, 349) = 13.64$, $p < .001$.

regulated reactivity to thought content were indirectly associated with less relationship conflict via less disengagement coping (B = -0.13, 95% CI -0.20 to -0.07 and B = -0.10, 95% CI -0.14, to -0.06, respectively.

Relationship Conflict Resolution

At Step 1, age and coping self-efficacy accounted for 6% of the variance in conflict resolution, $F(2, 354) = 11.44$, $p = < .001$ (see Table 8.3). Age was not significantly associated with conflict resolution, but there was a positive association between coping self-efficacy and resolution. At Step 2, when decentering processes were entered, the R^2_{change} was 3% and significant, $F_{change}(3, 351) = 3.47$, $p = .016$. After this step, coping self-efficacy and regulated reactivity to thought content were positively associated with more conflict resolution.

At Step 3, when engagement and disengagement coping were entered, the R^2_{change} was 10% and significant, $F_{change}(2, 349) = 22.44$, $p < .001$. After this step, two measures were associated with resolution; coping self-efficacy was significantly associated with more and disengagement coping was associated with less resolution, respectively.

Two of the six possible indirect associations of decentering with relationship conflict resolution via coping were significant and positive. Specifically, higher meta-awareness and regulated reactivity to thought content were indirectly associated with more relationship conflict resolution via less disengagement coping (B = 0.22, 95% CI 0.11 to 0.35 and B = 0.17, 95% CI .10 to .24, respectively).

Table 8.3

Results of Regressing Three Measures of Relationship Wellbeing on Decentering and Coping Measures (N = 357)

	Dependent variables							
	Relationship conflict resolution				Relationship satisfaction			
Independent variables	*B*	*SE*	β	*p*	*B*	*SE*	β	*p*
Step 1								
Age	-0.01	0.02	-.02	.758	-0.01	0.01	-.07	.175
Coping self-efficacy	0.27	0.06	.25***	<.001	0.12	0.02	.30***	<.001
Step 2								
Age	-0.02	0.02	-.04	.455	-0.02	0.01	-.09	.085
Coping self-efficacy	0.17	0.08	.16*	.028	0.09	0.03	.23**	.001
Decentering: Meta-awareness	0.07	0.14	.03	.597	0.08	0.05	.09	.121
Decentering: Observer perspective	0.02	0.17	.01	.910	-0.02	0.06	-.02	.771
Decentering: Regulated reactivity to thought content	0.21	.08	.17**	.008	0.05	0.03	.11	.080
Step 3								
Age	-0.03	0.02	-.06	.229	-0.02	0.01	-.12*	.013
Coping self-efficacy	0.15	0.07	.14*	.042	0.09	0.03	.22**	.001
Decentering: Meta-awareness	-0.14	0.13	-.06	.300	-0.02	0.05	-.02	.679
Decentering: Observer perspective	-0.13	0.17	-.06	.447	-0.07	0.06	-.09	.224
Decentering: Regulated reactivity to thought content	0.05	0.08	.05	.481	-0.02	0.03	-.05	.414
Engagement coping	0.40	0.24	.09	.094	0.10	0.08	.07	.216
Disengagement coping	-1.24	0.19	-.40***	<.001	-0.55	0.06	-.49***	<.001

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

Note. Relationship conflict resolution: Step 1 $F(2, 354) = 11.44$, $R^2 = 0.06$, $p < .001$. Step 2 $\Delta F(3, 351) = 3.47$, $\Delta R^2 = 0.03$, $p = .016$. Step 3 $\Delta F(2, 349) = 22.44$, $\Delta R^2 = 0.10$, $p < .001$. Final model $F(7, 349) = 11.82$, $p < .001$. Relationship satisfaction: Step 1 $F(2, 354) = 16.20$, $R^2 = 0.08$, $p < .001$. Step 2 $\Delta F(3, 351) = 2.74$, $\Delta R^2 = 0.02$, $p = .043$. Step 3 $\Delta F(2, 349) = 37.37$, $\Delta R^2 = 0.16$, $p < .001$. Final model $F(7, 349) = 17.76$, $p < .001$.

Relationship Satisfaction

In Step 1, age and coping self-efficacy accounted for 8% of the variance in relationship satisfaction, $F(2, 354) = 16.20$, $p = < .001$ (see Table 8.3). Age was not associated, but coping self-efficacy was significantly positively associated with more relationship satisfaction. At Step 2, when decentering processes were entered, the R^2_{change} was 2% and significant, $F_{change}(3, 351) = 2.74$, $p = .043$. However, no measure of decentering was significantly associated with relationship satisfaction. At Step 3, when engagement and disengagement coping were entered, the R^2_{change} was 16% and significant $F_{change}(2, 349) = 37.37$, $p < .001$. At this step greater disengagement coping was associated with less satisfaction. Coping self-efficacy and age were also significantly associated with relationship satisfaction, with higher coping self-efficacy associated with more positive relationship satisfaction and age associated with less satisfaction.

Two of the six possible indirect associations of decentering with relationship satisfaction were significant and positive. Specifically, higher meta-awareness and regulated reactivity to thought content were associated with more relationship satisfaction via less disengagement coping (indirect association $B = 0.10$, 95% CI 0.05 to 0.14 and $B = 0.07$, 95% CI 0.05 to 0.10, respectively).

Discussion

Research has proposed that person-level (trait) abilities to engage in decentering can be of benefit for coping with stress, and decentering can also enhance interpersonal interactions and relationship wellbeing (Ayduk & Kross, 2010; Duncan et al., 2021; Laurent et al., 2016). To integrate these ideas given the common experience of stress within romantic relationships, coping responses to relationship stressors were investigated, expecting that they would be associated with decentering and relationship wellbeing. Most notably, ways of coping were expected to be mediators of why decentering yields better relationship wellbeing (i.e., less conflict, and more conflict resolution and satisfaction). In general individuals higher in at least one metacognitive process of decentering were found to use less problematic coping in response to romantic stressors (i.e., they reported using more engagement and less disengagement coping) and reported better relationship wellbeing. Furthermore, indirect associations of two metacognitive processes of decentering, namely meta-awareness and regulated reactivity to thought content, with better relationship wellbeing were supported by way of less disengagement coping. The present study was unique by focusing on decentering and its role in coping with romantic relationship stress. This is important as no known research to date has examined the metacognitive model of decentering (Bernstein et al., 2015) within the domain of romantic relationships and in the context of coping with relationship stress.

Decentering: Associations with Relationship Wellbeing

The results from correlational analyses suggest there are positive benefits of each of the three intercorrelated metacognitive processes of decentering within a romantic relationship context. Positive benefits continued to be seen in multivariate models when the three metacognitive processes of decentering were considered along with coping self-efficacy and participant age. In these models, at least one metacognitive process of decentering remained associated with lower relationship conflict and higher conflict resolution (but not relationship satisfaction). Specifically, higher perceived ability to be conscious of one’s thought content (i.e., meta-awareness) and to regulate one’s reactivity to their thought content were uniquely associated with reports of less relationship conflict. Additionally, higher perceived ability to regulate reactivity to thought content was associated with higher conflict resolution. These results are related to past research that found metacognitive processes of decentering, as discussed here, were associated with lower emotional reactivity and problem-solving behaviour in romantic relationships

(Ayduk & Kross, 2010) as well as positive changes in perceptions of the relationship following conflict (Barnes et al., 2007).

It is important to highlight two aspects of these findings. First, decentering, especially the ability to regulate reactivity to thought content, was associated with conflict-related behaviours in relationships, but not with relationship satisfaction in the multivariate models. Whilst in the zero order correlations, all decentering processes were weakly and positively related to relationship satisfaction, it was also expected they would be uniquely associated after controlling for other factors. As such, it is possible that decentering may not be related, in comparison to other factors known to be more strongly associated, with relationship satisfaction (e.g., conflict, coping, coping self-efficacy) which, in the models, accounted for the variance in predicting satisfaction (Papp & Witt, 2010).

Second, observer perspective was not uniquely associated with relationship wellbeing after considering the other two metacognitive processes of decentering, coping self-efficacy, and age in the models. A reason for this could be in understanding the unfolding process of decentering conceptualised by Bernstein et al. (2015). For example, it is possible that taking an observer perspective may be a by-product of regulated reactivity to thought content, and this is supported by the strong interrelation found here between these two metacognitive processes of decentering (r = .54), thereby not being a direct correlate of relationship wellbeing in and of itself. This theory seems to be supported by past longitudinal multivariate path research which found increases in attentional control predicted increases in decentering (i.e., non-reactivity) that in turn predicted increased broadened awareness (i.e., observing) which predicted reappraisal which culminated in greater positive affect (Garland et al., 2017). To test this hypothesis, future research would benefit from longitudinal multivariate path analysis examining the temporal relationship between decentering, coping, and relationship wellbeing.

Decentering: Associations with Coping and Indirect Associations with Relationship Wellbeing via Coping

Individuals who reported more decentering reported less use of disengagement ways of coping with romantic relationship stress, such as denial, avoidance, suppression, and wishful thinking. In addition, one metacognitive process of decentering - observer perspective - was moderately associated with more engagement coping. Thus, these findings support previous research studies (Ayduk & Kross, 2010; Duncan et al., 2021; Laurent et al., 2016) that find decentering to promote more positive coping (and less negative coping) responses with stress. Yet, the findings extend on these past results in three ways.

First, there was evidence that disengagement coping acts as a mediator linking decentering (specifically, meta-awareness and regulated reactivity to thought content) to relationship wellbeing. Thus, individuals higher in decentering report being less reliant on disengagement ways of coping and, in turn, coping was associated with less relationship conflict and more relationship conflict resolution and satisfaction. Moreover, the decentering-relationship associations were fully mediated when coping responses were measured specific to the domain of romantic relationship stress in adults, suggesting a decentering-coping-relationship pathway. This finding is consistent with both decentering theory (Bernstein et al., 2015) and stress and coping frameworks (Lazarus & Folkman, 1984; Skinner & Zimmer-Gembeck, 2007) that person-level competencies may act as a foundation for individuals’ ways of coping that can predict individual and relational wellbeing; while also being supported by past research that shows the detrimental effect of romantic relationship disengagement on relationship wellbeing (Falconier & Kuhn, 2019; Knee, 1998; Papp & Witt, 2010).

Second, engagement coping was only a correlate of observer perspective within the bivariate analyses, but was not associated directly, or produced an indirect effect, with any aspect of relationship wellbeing within the multivariate analyses. This finding appears inconsistent with some repeated measures research showing metacognitive processes of decentering (e.g., meta-awareness) predicted higher relationship satisfaction and greater capacity to respond constructively to romantic relationship stress (Barnes et al., 2007). In this study, coping responses to relationship stress was measured using the accommodation scale, which possibly accounted for the positive and direct relationship found here, in comparison to the present study. This suggests that, whereas the present study did not find a link, future research could consider the decentering-positive coping-relationship wellbeing link by either using alternative positive coping measures, or examining individual strategies known to be adaptive in research on stress-responding, to uncover if they are more directly related to romantic relationship functioning and wellbeing.

Coping Self-efficacy

Though only included as a covariate, the association between decentering and coping self-efficacy in this study was notable. Individuals who endorse a greater capacity for decentering also endorse higher coping self-efficacy, with the association between observer perspective and coping self-efficacy being particularly strong (r = .69). Thus, individuals who perceive they have a greater capacity for decentering also report feeling more efficacious when coping with stress.

Furthermore, coping self-efficacy maintained unique positive relations within the multivariate analyses with more conflict resolution and relationship satisfaction after inclusion of the other study variables. Overall, these findings are consistent with theory (Bandura, 1997; Gardner et. al., 2021; Zimmer-Gembeck, 2021) in that one’s self-appraisal of being more able to engage in the necessary coping response needed to alleviate stressful experiences is a key person-level competency that individually links with better adjustment. It would be therefore worthwhile for future research on decentering, stress, coping, and regulation to continue to include measures of efficacy to better isolate the unique metacognitive processes of decentering that could be addressed to improve stress and coping responses. It is also recommended that research consider other aspects of reactivity and regulation that could covary with decentering, such as emotion regulation, emotional reactivity, and stress appraisals of threat or controllability (Ünlü Kaynakçı & Yerin Güneri, 2022; Zimmer-Gembeck, 2021).

Study Limitations and Future Directions

This study offers novel but preliminary findings about the role of decentering in romantic relationship stress and coping during the period of a COVID-19 lockdown. To extend these findings there are three limitations that should be addressed in future research. First, indirect effects were described, but all measures were completed at one point in time. As such, causal relations, and direction of effects, between decentering and other measures need clarification in future research. In particular, repeated measures research is encouraged in the future, either using experience sampling methods with many repeated measures over short periods of time or more traditional longitudinal designs. These designs will move forward the study of directional associations between decentering, relationship-wellbeing, and stress coping processes. They will also allow for greater consideration of stress and coping as a process that unfolds over time (Lazarus, 1998).

Second, the study was conducted in a single urban area of Australia with university students suggesting that whilst findings may be generalizable to urban university young adults, they may not be generalizable to other diverse age groups living outside of urban regions such as rural areas or countries with varying demographics. Thus, it is recommended that future research is conducted to replicate and extend these findings for generalizability to broader age groups and regions.

Third, all measures were self-reported. This might be of concern given that items both depend on and measure metacognitive processes. These processes could also be measured using observation to reduce inexact introspective ability and response bias and to address the challenges of self-report item face validity. Non-self-report measures of decentering should be developed for use in future research.

These findings support and add to previous research examining decentering associations with stress and coping both in general (Garland & Frederickson, 2019; Garland et al., 2017; Luberto et al., 2014) and specifically related to stress within intimate relationships (Duncan et al., 2021). Specifically, the present study findings suggest that the decentering processes of meta-awareness and regulated reactivity to thought content may be beneficial to relationship wellbeing via reduced use of disengagement coping such as denial, avoidance, and wishful thinking. These results are informative in understanding which metacognitive processes of decentering may be more appropriately addressed in interventions targeted towards promoting relationship wellbeing and managing relationship stress.

Conclusion

The metacognitive processes of decentering measured here as meta-awareness, the capacity to take an observer perspective on the self, and the ability to regulate reactivity to thought content are associated with coping beliefs and responses and relationship wellbeing. Their associations with relationship wellbeing measures differ in that; engaging meta-awareness and regulated reactivity to thought content are associated with less relationship conflict and more conflict resolution and satisfaction working by way of less disengagement coping responses. Overall, decentering is a skill or trait associated with better efficacy for coping with stress and more constructive coping responses (and less destructive) when considering relationship stress. Yet, there is more research needed to investigate the causal relationships, if any, between decentering, coping, and other responses to stress in romantic partnerships.

Summary of Chapter 8 and Introduction to Chapter 9

Chapter 8 included a prepared manuscript ready to submit for publication and addressed the third research aim of this thesis (see Chapter 6), which was to examine the associations of decentering with romantic relationship wellbeing as mediated by engagement and disengagement ways of coping in the domain of romantic relationship stress. In this cross-sectional study, mediation analyses using the Process macro for SPSS were conducted to examine direct and indirect associations between metacognitive processes of decentering and relationship wellbeing (conflict, conflict resolution, and satisfaction). The study was designed to better identify whether, and which, metacognitive processes of decentering might be beneficial for responding to stressful experiences within romantic relationships.

Across bivariate and multivariate analyses, decentering (at least one of its metacognitive processes) was associated with better relationship wellbeing (i.e., less conflict, greater conflict resolution, and higher relationship satisfaction), more positive ways of coping (higher engagement and lower disengagement coping), and higher coping self-efficacy. Two metacognitive processes of decentering, meta-awareness and regulated reactivity to thought content, were indirectly associated with greater relationship wellbeing by way of less disengagement coping. Overall, metacognitive processes of meta-awareness and regulated reactivity to thought content have unique positive associations with better relationship wellbeing directly and indirectly via less disengagement coping even after adjusting for the strong associations between decentering and coping self-efficacy.

In the next study presented in Chapter 9, the fourth research aim is addressed. This aim was to test both actor and partner effects of decentering within couple dyads with partners' ways of coping with romantic relationship stress, observed perspective-taking while discussing a conflict, and romantic relationship wellbeing.

CHAPTER 9

Study 3: Meta-Awareness, Perspective-Taking, Reactivity, and Relationship Wellbeing: An APIM Analysis of Romantic Couples

Chapter 9 includes a manuscript prepared for submission for publication and addressed the fourth research aim of this thesis (see Chapter 6). References for this chapter are included at the end of the thesis as part of a full reference list. The aim of Study 3 was to explore the actor and partner effects of decentering with ways of coping with relationship stress, observed perspective-taking, and romantic relationship wellbeing.

Statement of Contribution to a Co-authored Paper

This chapter includes a co-authored paper that has been prepared to submit for publication. The details of this co-authored paper, including all authors are:

Duncan, N. S., Zimmer-Gembeck, M. J., & Gardner, A. A. Meta-awareness, perspective-taking, reactivity, and relationship wellbeing: An APIM analysis of romantic couples.

My contribution involved:

- Review of the extant literature
- Co-development of hypotheses and direction of manuscript
- Selection of measures to include in the study
- Co-development of research design, data collection, and entry of data
- Conducting preliminary and primary analyses
- Writing and editing drafts of the overall manuscript

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Abstract

Three linked metacognitive processes of meta-awareness, the ability to take an observer perspective, and the ability to regulate reactivity to thought content are thought to foster more adaptive ways of coping with romantic relationship stress and promote better relationship wellbeing. In this study, Actor-Partner Interdependence Models (APIMs) were applied to test associations of these metacognitive processes (modelled as a latent construct referred to as *decentering*) with romantic partner dyads' ways of coping with relationship stress (engagement and disengagement), perspective-taking, and romantic relationship wellbeing (conflict, conflict resolution, and satisfaction). Participants were 76 university students and their partners (N = 152; 52.6% female, age M = 27.7 years) with a relationship length of 2 to 5 years who completed surveys with measures of decentering, ways of coping with relationship stress, and relationship wellbeing. Couples participated in a conflict discussion task where perspective-taking skills were observed. Results showed partners had high agreement about their relationship wellbeing. In addition, three actor effects were found across six APIMs, whereby individuals with higher decentering reported less disengagement coping, less relationship conflict, and more relationship satisfaction. One partner effect was found, whereby one partner's decentering was associated with the other partner's lower reported use of disengagement coping.

Keywords: metacognition, coping, emotion regulation, romantic relationship stress, relationship satisfaction.

Meta-awareness, Perspective-taking, Reactivity, and Relationship Wellbeing: An APIM Analysis of Romantic Couples

Conflict in close relationships can be beneficial for relationship growth and communication development (Ruvolo et al., 2001). However, in intimate partner relationships, excessive conflict relative to positive interactions or unresolved conflict can have detrimental consequences for relationship satisfaction, sometimes eventually leading to dissolution of relationships (Gottman, 1993; Gottman & Gottman, 2017). For instance, in one 5-year longitudinal study, more frequent couple conflict foretold declining relationship satisfaction and relationship instability (Johnson et al., 2018). Other studies conducted over the past few decades report similar findings (e.g., for reviews see Fincham, 2003; Ramos Salazar, 2015; Stanley et al., 2002; Ünal & Akgün, 2022). Conflict can also be detrimental to the mental health and wellbeing of each member of the couple dyad. Unresolved or chronic couple conflict has been linked to higher depressive symptoms, eating disorder symptoms, substance abuse, and physical illness (see Fincham, 2003 for a review) as well as declines in physical, emotional, and psychological wellbeing over time (for reviews see Jardine et al., 2022; Sells et al., 2009). Overall, such findings of the role of conflict and conflict resolution in relationship satisfaction and individual wellbeing suggest it is important to understand how individuals cope with stressors in relationships. In particular, how individuals respond to conflict as a stressor within their intimate relationships (Li et al., 2019) is critical for intervention and treatment of relationship difficulties and potential breakdown (Driver et al., 2012).

Process theories of stress and coping (Lazarus & Folkman, 1984, 1987) argue that individuals appraise the significance and meaning of incoming stressful experiences as threats or challenges relevant to the self’s goals and preferences. Appraisals are part of a process that sets in motion coping responses, reappraisals, and learning. Appraisals and subsequent coping responses are known to differ between persons and these differences are also described as influenced by meta-cognitive capacities throughout much of the lifespan (Cummings et al., 1991) from at least late childhood (Skinner & Zimmer-Gembeck, 2016) to adulthood (Taylor & Stanton, 2007). For example, in older adolescents and adults, perspective-taking (Erle & Topolinski, 2017) and emotion regulation (McRae & Gross, 2020) are individual skills that have been found to be related to less intense emotional responses to stressful events (Gardner et al., 2020; Jentsch et al., 2019; Kobylińska & Kusev, 2019 for a review), better recovery from emotional reaction following stress (Lea et al., 2019 for a review), and more positive coping responses and better wellbeing despite stressors (Stevenson et al., 2019). Furthermore, in the context of romantic relationships, Gottman and Gottman (2017) describe positive affect, emotion regulation, and perspective-taking as important foundations of better conflict management and resolution, explaining “conflict is easier to manage when people are physiologically calm” (p. 17) and “what is needed here is increasing awareness and mindfulness about how one’s partner expresses needs for connection” (p. 15).

Other theories and research are also drawing attention to the possibility that individuals with more skill at perspective-taking and emotion regulation have more adaptive emotional responses and better coping when responding to stressors in dyadic relationships (Papp & Witt, 2010; Rusu et al., 2019). Specifically, greater adaptive cognitive emotion regulation techniques such as perspective-taking, positive and planning refocussing, and positive reappraisal are related to couples’ positive coping, which in turn is associated with couples’ relationship satisfaction (Rusu et al., 2019). Relatedly, building on the metacognitive processes model of decentering proposed by Bernstein et al. (2015), Duncan et al. (2021) found that coping with interpersonal stressors may depend on the ability to be aware and present, to take an observer perspective, and to regulate one’s own emotional reactivity to thought content. Furthermore, two studies of couple dyads found that greater meta-awareness was linked to lower cardiovascular reactivity during couples' conflict (Kimmes et al., 2018), and greater use of positive conflict strategy (i.e., compromise) and greater relationship satisfaction (Harvey et al., 2019).

In the present study, the primary aim was to test whether meta-awareness, observer perspective, and regulated reactivity to thought content, modelled as indicators of a latent metacognitive skill of each member of couple dyads, were associated with less perceived conflict, better conflict management, and greater relationship satisfaction of both the actor reporting their own skills and the partner in the relationship. In addition to the analyses of conflict and relationship satisfaction as correlates of metacognitive skill, actor-partner models were used to test associations of the couple members' latent metacognitive skill with 1) observed perspective-taking during the task, and 2) general ways of coping with interpersonal stressors of each member of the dyad. Thus, the present study considered actor and partner effects of latent metacognitive skills indicated by meta-awareness, observer perspective, and regulated reactivity to thought content, which, aligning with the descriptions of Bernstein et al. (2015) and Duncan et al. (2021), which is referred to as *decentering* for short.

Meta-awareness, Observer Perspective, and Reactivity: Roles in Stress and Coping

Research on metacognitive skills has historically been referred to in various ways including, for example, cognitive distancing (Beck et al., 1979), meta-cognitive awareness (Teasdale et al., 2002), detached mindfulness (Wells, 2005), and decentering (Bernstein et al., 2015). Decentering integrates these skills of cognitive distancing, meta-cognitive awareness, and detached mindfulness by incorporating three skills of meta-awareness, disidentification from internal experience, and reduced reactivity to thought content (Bernstein et al., 2015; 2019). Meta-awareness is defined as the explicit awareness of the content and process of personal consciousness (Schooler, 2002). That is, the explicit knowledge of the *process* of consciousness as it unfolds in the present moment (Kabat-Zinn, 1990). Disidentification from internal experience, also called observer perspective, refers to the perceived ability to view internal states (thoughts or feelings) as if they were being observed by another, providing some separation or objective view of the self (Kross et al., 2005). Taking an observer perspective involves mental construal, particularly high-level construal which allow for *abstract* interpretations, promoting awareness to what is consistent (or inconsistent) regarding an experience or object across contexts (Trope & Liberman, 2010). In this way, high-level construals or greater psychological distance is expected to foster the ability to 'see the forest for the trees'. It is theorised that the metacognitive process of observer perspective fosters noticing thoughts and their processes in the moment and the subsequent shifting of maladaptive attentional habits to adaptive positive reappraisals, thereby transforming how individuals attend to stressful events (Garland et al., 2015).

The third metacognitive process described as a component of decentering is reduced reactivity to thought content. Reduced reactivity is described as a greater awareness of cognitive and emotive processes as mental events without veridicality (i.e., truth); research shows reduced reactivity is associated with how individuals relate to and respond to internal dialogue and emotionally regulate (Donald et al., 2017; Gillanders et al., 2014; Mandavia et al., 2015). For example, in an analogue experiment, Mandavia et al., (2015) found that individuals with a greater ability to defuse from self-identified negative body image thoughts showed significantly lower discomfort compared to a distraction condition and experimental control group. Furthermore, Donald et al., (2017) found that an individual's ability to defuse from thoughts predicted more approach coping and less avoidant coping following laboratory-induced stress, naturally occurring monthly stress, and daily stress.

Overall, the three metacognitive skills relate to each other and come together to result in a more objective (and less subjective) perspective of the self and the self in interactions with others, while reducing reactivity to thoughts. For example, a greater ability to take an objective perspective has been described as related to a greater ability to reflect on, critique, evaluate, and refine personal views and judgements of challenging or threatening events that occur in daily life (Nelson et al., 1999; Rhodes, 2019). Thus, it has been argued that taking a more objective perspective can be positively associated with regulating emotions and enacting appropriate coping responses when stressful events occur (Erkan et al., 2021). As one example, 288 adults were randomised into one of two conditions (7-week mindfulness-based stress reduction course; control group) and completed surveys four times over six years (Hanley et al., 2021). The findings revealed that individuals who were higher in observer perspective and who reported more reduced reactivity to thought content had broadened awareness and engaged in more positive reappraisal, which ultimately promoted increasing wellbeing over time. Other studies have found that decentering, measured as a combination of meta-awareness, observer perspective, and reduced reactivity to thought content, was associated with a lower level of hostile attributions within interpersonal domains (Schans et al., 2019) and more constructive coping with interpersonal stress (Duncan et al., 2021).

Conflict within Couples

Research has found positive associations of meta-awareness, observer perspective, and reduced reactivity to thought content with emotion and coping with stress in general. One straightforward extension of these findings is to expect that such associations would also be found when the focus is placed on stressors within couple relationships, such as when conflict occurs. In support of this, research is described that considered metacognitive processes of decentering within romantic relationships. For example, Mindfulness and Mindfulness-Based Stress Reduction (MBSR) research are considered here because mindfulness is akin to the psychological process of meta-awareness (Dahl et al., 2015). Research has shown positive associations of mindfulness with relationship satisfaction in romantic relationships (for a meta-analysis see Quinn-Nilas, 2020). Additionally, one qualitative study showed regular mindfulness practice (e.g., themed as meta-awareness of one's emotional strategies) was associated with more effective emotion regulation and constructive management of stressful situations for individuals in a romantic relationship (Erkan et al., 2021). Laboratory research found partner (female) withdrawal predicted slower stress recovery at lower levels of male decentering (measured using the Toronto Mindfulness Decentering Subscale; TMS-D; Lau et al., 2006) in romantic conflict (Laurent et al., 2016). Another laboratory study with a similar design found that an individual's ability to see themselves in their experience from the perspective of an observer (referred to as self-distancing) was related to more positive reappraisal of stress, less emotional reactivity, and more positive interpersonal problem-solving in couples when reflecting on conflict (Ayuk & Kross, 2010).

Yet, influences within couples could go beyond an individual and how their own cognitive processes and ways of appraising relate to their coping with stressors and relationship wellbeing. In the context of a couple, appraising and coping with stress can become an interactional process embodied within the unfolding of partners' interrelated history and experiences (Bodenmann, 1997). One partner's ways of responding to stress, such as their emotional reactivity, can influence the other partner and vice-versa; thus, partners can influence each other's cognitive appraisals, emotions, and coping behaviours (Bodenmann, 2005).

Ways of coping with couple relationship stress, in part, are linked to each partner's understanding of themselves and the perceptions and appraisals of others (Finkenauer & Righetti, 2011; Pollmann & Finkenauer, 2009; Nelson et al., 2017). This understanding hinges on the ability to 'put yourself in the other person's shoes', that is observer perspective. Thus, effective coping may be dependent on the skills of taking an observer perspective of each partner. Two of the most widely recognised coping responses for dealing with conflict are *'approach'* and *'avoidance'* coping (Roth & Cohen, 1986). Approach coping (known here as '*engagement coping*') involves cognitive and emotional activity orientated towards the stressor or conflict, whereas avoidance coping (known here as '*disengagement coping*') is oriented away from the stressor. Examples of engagement coping include positive reappraisal, problem solving, and acceptance, whereas disengagement coping includes emotional numbing, denial, escapism, and inaction (Connor-Smith et al., 2000). Consequently, the core coping skills recognised in successful conflict management and resolution include viewing the issue from multiple perspectives, problem-solving, empathy, active listening, and emotional intelligence (Coleman et al., 2014). Thus, in past research, individuals who exhibit engagement coping have been found to report more effective communication (Kuster et al., 2017) and greater relationship satisfaction (Falconier et al., 2015; Papp & Witt, 2010). In contrast, individuals who report using more disengagement coping report poorer social interactions and wellbeing across the same indicators. Whilst extant research has examined coping in romantic relationships at the dyadic level, few studies have examined relationships of decentering processes and coping at the dyadic level in romantic relationships.

Research is emerging examining decentering, coping, and relationship wellbeing within couple dyads (for a meta-analytic review of correlates of some decentering processes see Daks & Rogge, 2020). In one exploratory study of 169 heterosexual couples, individual's meta-awareness (measured with the Mindful Attention and Awareness Scale; MAAS; Brown & Ryan, 2003) was associated with more compromise during conflict and was positively associated with their own and their partner's relationship satisfaction (Harvey et al., 2019). No known research has examined the three metacognitive processes of decentering discussed here (i.e., meta-awareness, observer perspective, reduced or regulated reactivity to thought content) in relation to coping and relationship wellbeing within couple dyads.

The Current Study

Meta-awareness, the capacity to take an observer perspective, and better regulated reactivity to thought content are three linked skills that have been associated with more positive responding and ways of coping with stressful events, as well as more positive personal adjustment (Garland et al., 2009; Hayes-Skelton & Graham, 2013; Hayes-Skelton & Lee, 2018; O'Toole et al., 2019) and relationship wellbeing (Duncan et al., 2021). These research findings are promising, and they extend past research by considering how meta-awareness, observer perspective, and regulated reactivity to thought content, as an indicator of a latent construct akin to what has been called decentering (Bernstein et al., 2015), relate with more positive relationship functioning in both members within couple dyads. This was done by fitting APIM models to test actor and partner effects. Six models were tested to examine associations of latent decentering with actors' and their partners' coping (engagement and disengagement) with romantic relationship stressors, observed perspective-taking during a conflict discussion task, and relationship wellbeing (conflict, conflict resolution, and satisfaction). Participation was restricted to young adults who had been in a relationship for 2 to 5 years, given that age and relationship length could be potential confounds given their potential to be associated with skills at decentering, ways of coping, discussions in a conflict task, and relationship wellbeing (Smith et al., 2009).

Method

Participants and Procedure

Participants were 76 Australian university students and their partners N = 152, 52.6% female, M_{age} = 27.7 years, SD = 5.2 years). Given there is evidence of positive associations of age and cohabitation length with more collaboration during disagreement (Smith et al., 2009), the sample was limited to young adults who reported a current steady romantic relationship with a length of 2-5 years. To focus on younger couples, one partner was required to be between age 20-35 years. The dyads were all in steady committed relationships with the mean length of relationship 35.35 months (SD = 12.12; range 24 to 60 months). All participants were living together, with 56% married.

Of the 152 participants, race/ethnicity was as follows: 81% White; 1% Australian First Peoples, Pacific Islander or Torres Strait Islander; 9% Asian; 9% other. Education level of participants included year 10 certificate (3%), year 12 completion (40%), diploma/trade certificate (31%), undergraduate university study (20%), and postgraduate university study (6%). Sexual orientation included heterosexual (91%), gay males (1%), lesbians (7%), and non-binary with a male or female partner (1%).

The Griffith University Human Research Ethics Committee approved the study (protocol 055/2020). Participants were recruited in late 2021 and early 2022 through a psychology student first year subject pool at an Australian university. Participants completed an online survey (20-30 minutes). Approximately 4-6 weeks later, participants completed an 8-minute discussion task facilitated by a researcher (online via Microsoft TEAMS) which included observation of their perspective-taking skills by a researcher. First year psychology students received 5% psychology course credit for their participation. Materials were delivered online and included information outlining the study, expected benefits and risks of the research, confidentiality, voluntary participation, contact details for feedback or further information and the surveys.

Conflict Discussion Task

As part of the online survey, participants completed the Areas of Change Questionnaire (AC; Margolin et al., 1983) to identity a topic to discuss during the 8-minute discussion task. The AC assesses romantic partners' presenting complaints, their perceptions of one another's complaints, and perceptual accuracy between actual and perceived complaints. The AC comprises two parts that contain identical listings of 34 items reflecting specific issues for relationship change. In Part I of the AC, the respondent indicated whether they want their partner to increase, decrease, or not change the rate of each behaviour. In Part II the respondent indicated whether an increase, decrease, or no change would be pleasing to the partner. Desired change is indicated in Part 1 and Part II along a 7-point rating scale ranging from "much less" (-3) to "no change" (0) to "much more" (+3). Scoring involves matching Part I for each partner with Part II from their partner. Agreements are scored when one partner wants a change on a specific item and their partner is aware of that specific change and accurately indicates the desired direction of that change. Disagreements are scored under two types of conditions: if one partner wants change, but their partner thinks no change is desired, or, alternatively, one partner does not want change but their partner believes that change is desired. Disagreements are also scored when there is a misperception regarding the desired change direction. The ratio of Agreements to Disagreements reflects the extent to which partners are on behaviour changes and the direction of that change. A conflict topic for discussion was then selected from the highest rated disagreement on the AC (Margolin et al., 1983).

The Conflict Discussion Task was then scheduled and participants were emailed information and directions for connecting with a researcher online using Microsoft TEAMS. Upon participant couples joining the online TEAMS discussion task, permission for recording the meeting was confirmed, and the researcher instructed the couple to discuss the selected disagreement topic for that couple for 8-minutes. From 34 conflict topics, common topics included disagreements about spending money, keeping the house clean, and spending time together. Upon completion of the task the researcher finalised the online TEAMS meeting by debriefing the couple and providing information about relationship resources and support agencies. Two researchers facilitated the discussion task (refer to the Measures section for further information on researcher discussion task training and inter-rater reliability).

Measures

Meta-awareness

To measure meta-awareness, participants completed the 15-item Mindful Attention and Awareness Scale (MAAS; Brown & Ryan, 2003; e.g., *I could be experiencing some emotion and not be conscious of it until sometime later*). MAAS items were rated from 1 (*never*) to 6 (*always*), with all items worded to reflect less capacity for meta-awareness. All MAAS items were reverse scored, and an overall composite MAAS score was created by averaging all items so higher scores indicated greater capacity for meta-awareness, Cronbach's $\alpha = .89$.

Observer Perspective

Observer perspective was measured with the 11-item Experiences Questionnaire (EQ; Fresco et al., 2007; e.g., *I can separate myself from my thoughts and feelings*). EQ items were rated from 1 (*never*) to 6 (*always*), with all items worded to reflect more observer perspective. A total score was created by averaging the items so higher scores represented better ability at taking an observer perspective, Cronbach's $\alpha = .87$.

Regulated Reactivity to Thought Content

Regulated reactivity to thought content was measured with the 7-item Cognitive

Fusion Questionnaire (CFQ; Gillanders et al., 2014; e.g., *my thoughts cause me distress or emotional pain*). CFQ items were rated on a 7-point scale from 1 (*never true for me*) to 7 (*always true for me*), with all items worded to reflect more reactivity to thought content. A total score was created by averaging the items so higher scores represented more ability to regulate reactivity to thought content, Cronbach's α = .94.

Coping with Interpersonal Stress in Romantic Relationships

Engagement and disengagement ways of coping were measured using 30 items from the Responses to Stress Questionnaire (RSQ; Connor-Smith et al., 2000). Before completing the items, participants were prompted to consider stressful experiences specific to their romantic partner: *Everyone has challenges and stress that involves other people. When you think about stress or problems (such as conflict, pressures, jealousy, difficult conversations, lack of time together, choices, changes) within your current relationship with your partner, how do you feel and respond?* Items tapped: (1) engagement coping (21 items; e.g., *I try to think of different ways to change or fix things*), and (2) disengagement coping (9 items; e.g., *I try not to feel anything*). Items were rated from 1 (*not at all or a little*) to 4 (*very much*). Engagement coping items included tapping problem solving, emotional regulation, emotional expression, positive thinking, and cognitive restructuring. Disengagement coping items included tapping avoidance, denial, wishful thinking and distraction. Responses to items on the engagement subscale were averaged to form a total score with higher scores indicating more engagement coping, Cronbach's α = .80. Responses to items on the disengagement subscale were averaged with higher scores indicating more disengagement coping, Cronbach's α = .78.

Romantic Relationship Conflict

Romantic relationship conflict was measured with six items used in previous research (Gordon & Chen, 2016; e.g., *My partner and I have a lot of disagreements)*. Item responses ranged from 1 (*not at all*) to 7 (*completely*). A total score was created by averaging the items so higher scores represented more relationship conflict, Cronbach's α = .83.

Relationship Conflict Resolution

Conflict resolution was measured with one item (*Thinking about your most recent personal conflict with your partner, do you feel like the matter is resolved?*), rated on a 7-point scale from 1 (*not at all*) to 7 (*completely*) with higher scores representing more resolution.

Romantic Relationship Satisfaction

Romantic relationship satisfaction was measured with 14 items from the Revised Dyadic Adjustment Scale (Busby et al., 1995). Items tapped consensus (*demonstrations of affection*), (2) satisfaction (*how often do you discuss or have you considered ending your relationship?*, reversed), and (3) cohesion (*work together on a project*). Responses ranged from 1 (*never*) to 6 (*always*). A total score was created by averaging the items so higher scores represented more relationship satisfaction, Cronbach's α = .85.

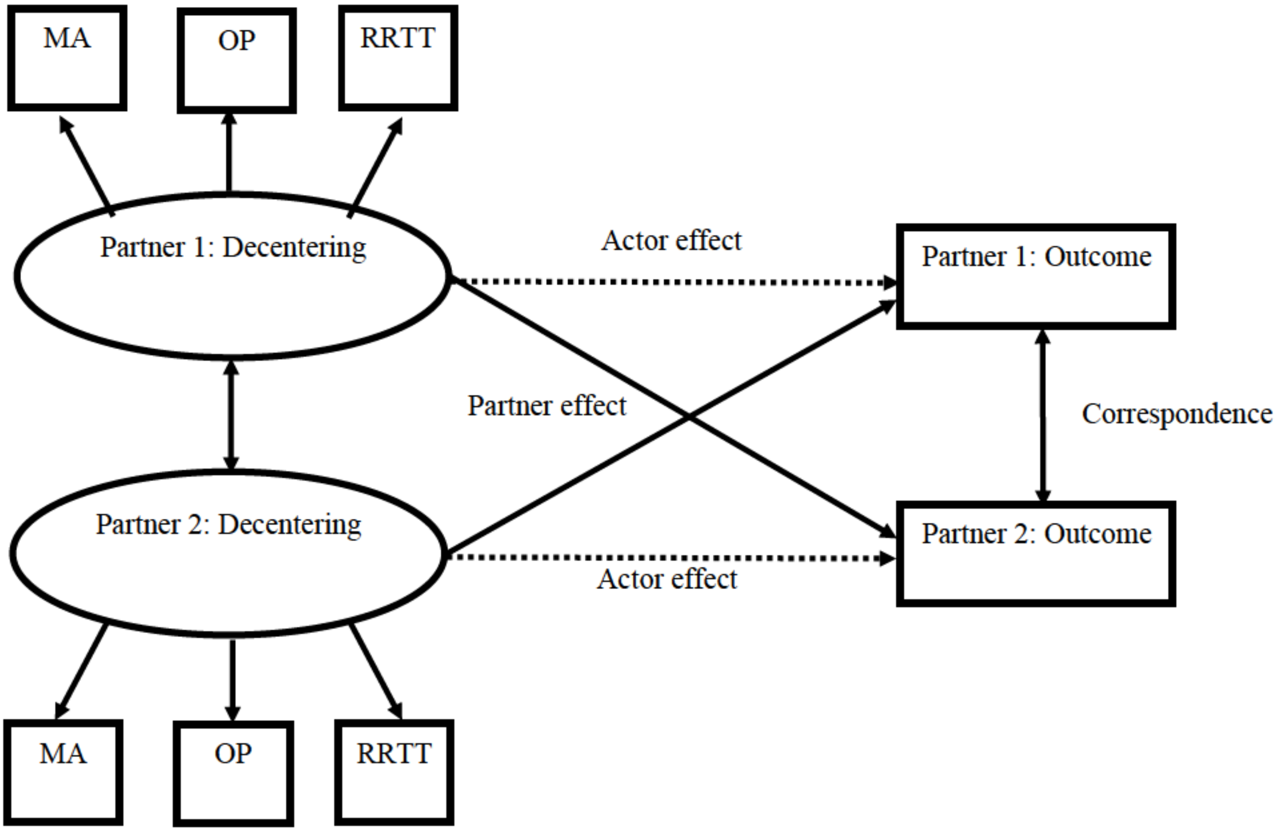
Observed Perspective-taking

Perspective-taking was measured with the Communicated Perspective-taking Rating System (CPTRS; Kellas et al., 2017). The CPTRS is a reliable observational system used by trained observers to measure communicated perspective-taking in interactions. The CPTRS provides ratings on a 5-point Likert-type scale (1 = *low, strong lack of perspective taking behaviours or strong demonstration of negative behaviours*; 5 = *high, strong degree of perspective-taking behaviour and no negative behaviours*) for each of seven areas: (1) *Conversational (in)attentiveness* includes verbal and nonverbal behaviours that signal (dis)engagement in the interaction (e.g., eye contact, nodding; tuning out), (2) *Creating space to talk* is the degree to which partners share the floor and encourage each-other to share their opinions (e.g., waiting for the other person to finish; interrupting), (3) *(Dis)-Agreement/(mis)understanding* refers to the communication of (dis)similarity, (in)consistency in perspective, style, or understanding (e.g., agreeing; correcting the other person), (4) *Affective tone* refers to certain behaviours that set the tone, tenor, or mood of the interaction (e.g., showing kindness; being sarcastic), (5) *Validating partner identity* is the extent to which partners communicate (in)validation and acceptance of their partner as a person (e.g., verbally validating the other person's actions; undermining the person's view of self), (6) *Global attentiveness to others' perspectives* measures the overall presence of perspective-taking and partners' integration of each-other's perspectives into a meaningful discussion of the difficulty and, (7) *Global confirmation of others' perspectives* is the degree to which the overall interaction consists of confirming perspectives of the other (see Koenig Kellas et al., 2017 for a full description of each construct). Two raters underwent 4 weeks of training and practice in scoring communicated perspective-taking. Raters took notes on a rating sheet while watching each interaction to ensure fidelity across the interaction. After establishing initial levels of interrater reliability, raters rated interactions in batches of five checking reliability to guard against coder drift. All seven constructs were rated reliably (interrater reliability ranged between .72 - .89), and the seven ratings (averaging each rating across the two raters) had a Cronbach's $\alpha = .94$. Following CPTRS guidelines, all seven scores were averaged to create an overall communicated perspective-taking score for each participant. Higher scores reflect higher levels of communicated perspective-taking.

Overview of Analyses

Prior to conducting the primary analyses, data were examined for missing values, input errors, and unusual scores or ranges and nil were found. Variables were inspected for normality. Correlations of all measures were then estimated using SPSS Version 25.0. To examine the actor and partner associations of decentering with each of the measures of coping (i.e., engagement and disengagement), perspective-taking, and relationship wellbeing (i.e., conflict, conflict resolution, and relationship satisfaction), Actor-Partner Interdependence Models (APIM; Cook & Kenny, 2005) for indistinguishable pairs were estimated (see Figure 9.1). APIMs take the interdependence between the dyads into account and estimates within- (i.e., actor) and between-partner (i.e., partner) effects. Three measures were used (i.e., meta-awareness, observer perspective, and regulated reactivity to thought) as indicators of a latent variable, which is referred to here as “decentering” (loadings ranged between .52 - .90). These three loadings were constrained to be equal for partners within dyads for the APIMs. Additionally, equality constraints were applied (i.e., equal means and variances) for intercepts of the outcome variables, error variances, actor effects, and partner effects, as is standard practice for APIM (Kenny & Ledermann, 2010). The association of the latent variable of decentering with other measures was estimated by fitting a separate model for each outcome measure (refer to Fig. 9.1 for an illustration of the model). Thus, six APIM models were used to estimate the relationship between latent decentering (indicated by meta-awareness, observer perspective, regulated reactivity to thought content) and outcomes of coping (engagement and disengagement), observed perspective-taking, and relationship wellbeing (conflict, conflict resolution, satisfaction) using AMOS v26.0.

Figure 9.1
Graphical Illustration of the APIM



Note. This figure outlines the general APIM model fit to each of six outcome measures. MA = meta-awareness; OP = observer perspective; RRTT = regulated reactivity to thought content.

Results

Descriptive Statistics and Correlations Between All Measures

Means (*M*s), standard deviations (*SD*s), and Pearson's correlations between the study variables are shown in Table 9.1. There was a significant positive association of observer perspective with engagement coping, and all three metacognitive processes of decentering (meta-awareness, observer perspective, regulated reactivity to thought content) were negatively associated with disengagement coping with moderate strengths of effect. Observer perspective (but not meta-awareness or regulated reactivity to thought content) was only weakly positively correlated with perspective-taking during the conflict discussion task. Also, metacognitive processes of decentering (meta-awareness, observer perspective, regulated reactivity to thought content) were associated with all three measures of relationship wellbeing in the expected directions, except for conflict resolution with meta-awareness and regulated reactivity to thought content which were not significantly correlated.

Neither age nor length of relationship was significantly correlated with any key measure. Gender (1 = male, 2 = female) was positively correlated with engagement coping but was not significantly correlated with any other key measure.

APIMs of Decentering with Coping, Perspective-taking, and Relationship Wellbeing

Table 9.2 presents estimates of model paths and standard errors of actor and partner correlational effects within partner dyads for the six APIMs. Across all models, one significant partner effect of decentering was found, which was for disengagement coping (β = -.19, p =.031) and one, relationship conflict resolution, approached significance (β = .15, p = .087). Thus, when one individual was higher in decentering, their partner reported lower disengagement ways of coping with romantic relationship stress and marginally more conflict resolution.

Table 9.1

Means and Standard Deviations (SDs) of Measures and Correlations between Measures (N = 152)

		1	2	3	4	5	6	7	8	9	10	11
1	D meta-awareness	--										
2	D observer perspective	.30***	--									
3	D RRTT	.55***	.47***	--								
4	Engagement coping	-.03	.27**	-.04	--							
5	Disengagement coping	-.37***	-.23**	-.33***	.09	--						
6	Perspective-taking	.07	.18*	.13	.02	-.16	--					
7	Rel conflict	-.19*	-.20*	-.27**	-.11	.35***	-.27**	--				
8	Conflict resolution	.07	.16*	.11	.19*	-.24**	.33***	-.46***	--			
9	Rel satisfaction	.20*	.27**	.18*	.15	-.25**	.19*	-.68***	.54***	--		
10	Age	.16	-.13	.01	-.10	-.12	-.07	.02	.00	-.00	--	
11	Gender	-.07	-.12	-.14	.17*	-.05	.02	.04	.09	.02	-.09	--
12	Cohabitation time	.01	-.00	.08	-.09	.01	.03	-.05	.00	.08	.25**	.01
	Mean	3.62	3.89	4.26	2.52	1.75	3.50	2.38	5.21	4.64	27.71	--
	SD	0.87	0.82	1.61	0.43	0.54	0.74	1.16	1.83	0.63	5.27	--

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

Note. D: Decentering. RRTT: regulated reactivity to thought content. Rel: relationships. The possible range for measures was 1 to 7, with the exceptions of meta-awareness and relationship satisfaction with a range of 1 to 6; perspective-taking 1 to 5; and coping strategies 1 to 4. Cohabitation ranged from 24 to 60 months. Gender: 1 = Male, 2 = Female.

Table 9.2

Actor and Partner Effects for Decentering from the Six Actor-partner Interdependence Models (APIMs): Outcomes of Coping, Perspective-taking, and Relationship Wellbeing (N =76 dyads)

Effect	*B*	*SE*	β	*p*
Model 1 Engagement coping, $\chi 2$ (22) = 42.26, *p* = .006, RMSEA = .111, CFI = .81				
Actor effect	-0.01	0.09	-.01	.877
Partner effect	0.08	0.09	.08	.384
AP correspondence in engagement coping	0.01	0.02	.07	.566
Model 2 Disengagement coping, $\chi 2$ (22) = 23.90, *p* = .352, RMSEA = .034, CFI = .98				
Actor effect	-0.53	0.13	-.43	<.001
Partner effect	-0.24	0.11	-.19	.031
AP correspondence in disengagement coping	0.03	0.03	.11	.382
Model 3 Perspective-taking, $\chi 2$ (22) = 15.04, *p* = .860, RMSEA = .000, CFI = 1.00				
Actor effect	0.26	0.15	.15	.091
Partner effect	0.16	0.15	.09	.277
AP correspondence in perspective-taking	0.46	0.08	.87	<.001
Model 4 Relationship conflict, $\chi 2$ (22) = 19.99, *p* = .584, RMSEA = .00, CFI = 1.00				
Actor effect	-0.81	0.25	-.30	.001
Partner effect	-0.26	0.23	-.10	.249
AP correspondence in relationship conflict	0.81	0.17	.68	<.001
Model 5 Relationship conflict resolution, $\chi 2$ (22) = 25.50, *p* = .274, RMSEA = .05, CFI = .97				
Actor effect	0.53	0.37	.13	.151
Partner effect	0.64	0.38	.15	.087
AP correspondence in conflict resolution	1.54	0.41	.49	<.001
Model 6 Relationship satisfaction, $\chi 2$ (22) = 27.26, *p* = .202, RMSEA = .06, CFI = .96				
Actor effect	0.36	0.13	.26	.006
Partner effect	0.13	0.12	.10	.287
AP correspondence in relationship satisfaction	0.20	0.05	.54	<.001

Note. Decentering was not significantly correlated within couples, *B* = .02, β = .09, *p* = .514.

Additionally, three significant actor effects of decentering were found: disengagement coping ($\beta = -.43$, $p < .001$), relationship conflict ($\beta = -.30$, $p = .001$), and relationship satisfaction ($\beta = .26$, $p = .006$) whilst perspective-taking approached significance ($\beta = .15$, $p = .091$). Actor effects were not significant for the associations of decentering with engagement coping ($\beta = -.01$, $p = .877$) or relationship conflict resolution ($\beta = .13$, $p = .151$). Finally, although decentering reports were not significantly correlated within partner dyads ($\beta = -.10$, $p = .491$), most measures were significantly correlated: partners tended to agree about relationship conflict ($\beta = .68$, $p < .001$), relationship conflict resolution ($\beta = .49$, $p < .001$), relationship satisfaction ($\beta = .54$, $p < .001$), and observed perspective-taking ($\beta = .87$, $p < .001$). Engagement coping ($\beta = .07$, $p = .566$) and disengagement coping ($\beta = .11$, $p = .382$) were also not significantly associated.

Discussion

Research suggests that three linked metacognitive skills of meta-awareness, an ability to take an observer perspective, and a greater capacity to regulate reactivity to thought content can be of benefit for coping with stress and associated with greater relationship wellbeing (Ayduk & Kross, 2010; Duncan et al., 2021; Laurent et al., 2016). To extend these ideas, these metacognitive abilities were modelled as three indicators of a latent construct called *decentering*, at the dyadic level among romantic couples to explain couples' coping with relationship stress, observed perspective-taking during a conflict task, and relationship wellbeing (conflict, conflict resolution, and satisfaction). Although a limitation, the decision to use a latent construct of decentering rather than the three metacognitive processes of decentering (i.e., meta-awareness, observer perspective, regulated reactivity to thought content) helped to manage the number of models estimated. It also provided a first test of how all theoretically intercorrelated aspects of decentering, when considered as an over composite process, related to couples coping with romantic stress. Using models to simultaneously examine intercorrelations of decentering with all measures within the same person, as well as testing whether one partner's decentering was associated with the other partner's relationship and coping responses, three within-person actor effects and two partner effects (one significant and one marginally significant) were found. The actor effects showed that individuals higher in decentering reported better coping and more relationship wellbeing (i.e., less disengagement coping, less relationship conflict, and more relationship satisfaction). Regarding the partner effects, when one partner reported more decentering, the other partner reported less use of disengagement (e.g., denial, avoidance, wishful thinking) as a way of coping with romantic relationship stress and reported marginally better conflict resolution within the relationship.

Within-Person Associations of Decentering with Relationship Responses and Wellbeing

Before testing the APIMs considering decentering as a latent variable, each decentering process -- meta-awareness, observer perspective, and regulated reactivity to thought content -- with all other measures across all participants were estimated, without considering the dyadic structure of the data. The findings are consistent with past research in several ways. In particular, participants who scored higher on the meta-cognitive processes of decentering also reported less relationship conflict and more satisfaction with their romantic relationship. The present study results also showed some differences in the correlations for the three metacognitive processes of decentering. Individuals higher in observer perspective reported they used more engagement coping responses, were observed to engage in more perspective-taking, and reported better conflict resolution. These results add to, and are related to, past research that found that individuals who score higher on the metacognitive processes of decentering, as discussed here, have lower emotional reactivity and improved problem-solving behaviour within their romantic relationships (Ayduk & Kross, 2010), as well as positive changes in perceptions of the relationship following conflict (Barnes et al., 2007).

When analyses modelled decentering as a latent construct and took account of the dyadic structure of the data, the actor effects within the APIMs supported many of these correlational results. Participants higher in decentering reported less coping with relationship stress using disengagement, and less relationship conflict and more relationship satisfaction. These associations are suggested in decentering theory (Bernstein et al., 2015) and stress and coping frameworks (Lazarus & Folkman, 1984; Skinner & Zimmer-Gembeck, 2007), whereby person-level competencies, such as metacognitive abilities, may act as a foundation for individuals' ways of coping, alongside individual and relational wellbeing. It is worthwhile noting past research that has described how romantic relationship disengagement, such as avoiding communication or withdrawal, can be detrimental to relationship wellbeing at the individual level (Falconier & Kuhn, 2019; Knee, 1998; Papp & Witt, 2010), suggesting that decentering may be beneficial for relationship wellbeing because it helps couple members to minimize their disengagement when they encounter relationship stressors.

The findings are also consistent with research that has found a significant correlation between meta-awareness and more relationship satisfaction (Harvey et al., 2019). Yet, the findings expanded on this past research to consider relationship conflict and conflict resolution. Additionally, there was a marginal association of decentering with better observed perspective-taking ability during the conflict discussion task. This suggests decentering may be beneficial during couples' conflict because it supports couples' members staying open to see each other's perspectives. Taken together, when comprehensively considering each of these metacognitive capabilities, the findings add to the body of knowledge whereby greater capacity for meta-awareness, observer perspective, and regulated reactivity to thought content, are positive correlates of more positive romantic relationship interactions and satisfaction and behavioural outcomes (e.g., in the form of fewer disengagement ways of coping with romantic stressors).

Partner Effects of Decentering

The APIM analyses also revealed one significant partner effect, whereby participants' higher capacity for decentering related to their partners' reports of less use of disengagement ways of coping with romantic relationship stressors. Thus, a higher level of decentering in one partner relates to the other partner's report of less disengagement coping (e.g., denial and avoidance) when romantic stressors occur. This finding supports previous research identifying how person-level competencies that involve observation of the present moment, awareness of the self and others may be of benefit to wellbeing because they provide a foundation for more positive coping responses (Chichima et al., 2018; Dvořáková et al., 2019; Harvey et al., 2019). Although much of this theory and research has considered how competencies relate to coping within the same individuals, these findings suggest that it may also extend to the partner in a romantic partnership. It is possible that individuals with a higher trait level capacity for decentering are providing a safer and more secure context that decreases their partners' tendencies to disengage when romantic stressors arise. Though this explanation is speculative, this finding does provide ideas for future research addressing how decentering may relate to day-to-day couple communication and support.

A marginal association between decentering and partners' report of better conflict resolution, but not conflict itself, was found. This finding awaits further research with a larger sample to determine if study power was an issue here, while also replicating the finding. Yet, overall, the findings expand on past research which found significant partner effects of meta-awareness on greater relationship satisfaction (Harvey et al., 2019) by considering relationship conflict and conflict resolution.

Study Limitations and Future Directions

This study offers novel but preliminary findings about the role of decentering in coping with romantic stressors and relationship wellbeing at both the individual and dyadic level. A study strength was the use of observational behaviour methodology alongside self-report from both members of couples. Future studies may also expand and possibly strengthen these findings by inclusion of dependent variables that measure reflections on the discussion topic (e.g., perception of connection, perceived listening and responsiveness). Furthermore, there are two limitations that should be addressed in future research. First, actor and partner effects were tested, but all measures were completed at one point in time. As such, there is a need for further investigation of the direction of effects between decentering and other measures. It will be especially worthwhile to conduct research using repeated measures to advance the study of directional associations between metacognitive processes of decentering, relationship-wellbeing, and stress coping responses. Such research would also afford greater understanding of stress and coping responses that unfold over time (Lazarus, 1998).

Second, the study may not be generalizable to couples in shorter or longer relationships (the limit here was 2-5 years), diverse age groups, non-students, and those in other regions. Therefore, future research is recommended to replicate and extend these findings to determine generalizability beyond the characteristics of the current sample.

Conclusion

These findings support and add to previous research examining decentering as related to stress and coping in general (Garland & Frederickson, 2019; Garland et al., 2017; Luberto et al., 2014) and specifically related to stress within romantic couples (Duncan et al., 2021; Harvey et al., 2019). In particular, the findings suggest that young adults who report more decentering (as indicated by meta-awareness, observer perspective, and regulated reactivity to thought content) are more satisfied with their partner relationship and report less relationship conflict. In addition, young adults report less use of disengagement coping, such as denial, avoidance, and wishful thinking, to cope with relationship conflict and other stressors. In addition, one association was found that suggests some influence of one partner on the other: individuals report less use of disengagement coping when they have partners who are higher in decentering. Beyond these findings, two marginal associations were also identified which supported these significant results. Individuals higher in decentering were higher in perspective-taking during the conflict task and individuals higher in decentering had partners who reported better relationship conflict resolution.

Although significant associations were not found for all measures and partner effects were not as numerous as actor effects, it is possible that by being more aware, objective, and able to regulate reactivity, the findings preliminarily suggest that couple members may be able to better understand their partner's perspective and engage in responses that allow more empathy, support provision, and problem-solving of conflicts within the relationship, helping with the resolution of couple conflict and increasing relationship satisfaction. The present study was unique by focusing on decentering and its role in romantic couples' reports of how they cope with relationship stressors, as well as considering their perspective-taking during a conflict discussion task and relationship wellbeing. The clinical and applied implications of these findings support the enhancement of decentering skills in individuals and couples for romantic relationship wellbeing. Yet, more research is needed to examine directional relationships and to replicate these findings in a larger sample and in other populations.

Summary of Chapter 9 and Introduction to Chapter 10

Correlations in Study 3 (Chapter 9) replicated and extended the findings of Study 2. Study 3 extended on Study 2 by focussing on couples, analysing the actor and partner effects of decentering on ways of coping with relationship stress, perspective-taking, and romantic relationship wellbeing. More specifically, the study tested associations of decentering within couple members, and how each romantic partner’s capacity for decentering related to their own and their partner's ways of coping (engagement, disengagement) with romantic stressors, observed perspective-taking during a conflict task, and three measures of relationship wellbeing (i.e., conflict, conflict resolution, satisfaction). Overall, three of six tested actor effects were supported, whereby individuals who reported more decentering also reported less disengagement coping with relationship stress, less relationship conflict, and more relationship satisfaction. In addition, there was one significant partner effect, whereby one partner’s greater ability to decenter was linked to the other partner’s report of less disengagement coping with relationship stress. It is also worthy of note that results approaching significance suggest that one partner’s greater ability to decenter was linked to their partner perceiving better conflict resolution within their relationship.

The following and last chapter, Chapter 10, discusses the overarching general conclusions from the thesis body of research, research implications, and recommendations for future research.

CHAPTER 10

General Discussion, Implications, Future Research, and Conclusion

The overarching purpose of this thesis was to explore the role of decentering in coping with interpersonal and romantic relationship stress and relationship wellbeing. The specific aims were to identify a set of scales to use to measure components referred to as decentering in past research (Study 1, Chapter 7) and then to test associations of decentering, measured as meta-awareness, observer perspective, and regulated reactivity to thought content, with ways of coping with relationship stress and romantic relationship wellbeing during young adulthood both at the individual (Study 2, Chapter 8) and dyadic couple level (Study 3, Chapter 9). In addition, Study 3 included an observation of couple interactions to test associations of decentering with observed perspective-taking during the interaction task. Decentering was expected to be associated with more engagement and less disengagement ways of coping and to be beneficial for reducing stress and relationship conflict and promoting conflict resolution and relationship satisfaction. Moreover, decentering was expected to be helpful within a couple during discussion of a romantic relationship conflict. Decentering metacognitive processes (modelled as a latent construct) were expected to be associated with romantic partner dyads' ways of coping with relationship stress (more engagement and less disengagement), greater observed perspective-taking during discussion of a conflict, and more romantic relationship wellbeing (less conflict, more conflict resolution and satisfaction).

Prior to presenting the studies, six chapters provided background for this thesis. Chapter 1 provided a general introduction and rationale for the research by highlighting the importance of decentering in the context of coping with relational stress, aims of the research, and overview of the chapters. Chapter 2 introduced the construct of decentering and its theorised metacognitive processes model as well as decentering related constructs and the measurement of decentering. Chapter 3 focused on stress and coping theory, conceptualisation, and measurement. Chapter 4 linked decentering with ways of coping with general and interpersonal stress and wellbeing outcomes. Chapter 5 introduced decentering and ways of coping within the specific stressor domain of romantic relationships and wellbeing outcomes. Chapter 6 discussed the general purpose, outlined four research aims, and summarised the focus of the three empirical studies presented in Chapters 7, 8, and 9.

Study 1, which included two studies (1a and 1b), was presented in Chapter 7. Study 1a considered if commonly used measures of decentering aligned with the metacognitive processes model of decentering (Bernstein et al., 2015). Study 1b explored the factor structure and examined whether decentering metacognitive processes were associated with better stress and coping responses among a large sample of older adolescents and young adults. Study 2 (presented in Chapter 8) extended on these findings by examining the role of the metacognitive processes of decentering within the context of romantic relationship stress and wellbeing at the individual level. Furthermore, this study examined direct and indirect relations between the metacognitive processes of decentering and romantic relationship wellbeing via ways of coping. Study 3 (presented in Chapter 9) included couples in order to investigate the actor and partner effects of the metacognitive processes of decentering with ways of coping with relationship stress, observed perspective-taking while couples discussed a conflict, and romantic relationship wellbeing. Many specific findings were discussed within each of the three studies, however, when all studies are taken together, there are three overarching findings to describe and discuss in more detail here. These include 1) the reliable and valid measurement of the metacognitive processes model of decentering, 2) differential associations of decentering with relationship wellbeing via coping responses, and 3) decentering as a potential resource for both individual and partner relationship wellbeing when experiencing romantic relationship stress.

Overarching General Conclusions

The first general finding concerns the conceptualisation and measurement of decentering. Decentering, conceptualised as the metacognitive processes of meta-awareness, observer perspective, and regulated reactivity to thought content, could be reliably measured with two commonly used measures, namely the Experiences Questionnaires (Fresco et al., 2007), which tapped meta-awareness and observer perspective, and the Cognitive Fusion Questionnaire (Gillanders et al., 2014), which tapped regulated reactivity to thought content.

The second general research finding related to the differential associations of decentering with coping responses and relationship wellbeing. Whilst metacognitive processes of decentering (i.e., meta-awareness, observer perspective, regulated reactivity to thought content) and ways of coping (i.e., engagement, disengagement) were associated with relationship wellbeing (i.e., less relationship conflict, more conflict resolution and relationship satisfaction) in young adults experiencing romantic relationship conflict in correlational analyses, it was disengagement coping that typically arose out of negative relationship contexts that was a unique risk factor correlating with poorer relationship wellbeing. Furthermore, the decentering metacognitive processes of meta-awareness and regulated reactivity to thought content had unique positive associations with better relationship wellbeing directly and indirectly via less disengagement coping even after adjusting for the strong associations between decentering and coping self-efficacy.

The third general research finding related to the role of decentering in coping responses within romantic relationship stress at the dyadic level. APIM showed partner effects between increases in decentering and less use of disengagement coping. Thus, decentering metacognitive processes may be a specific resource for young adults in romantic relationships to consider as a personal capacity to manage romantic relationship stress through reduced disengagement coping.

General conclusion 1: The Reliable and Valid Measurement of the Metacognitive Processes Model of Decentering

Applying exploratory factor and confirmatory analyses in Study 1, items on the Experiences Questionnaire (Fresco et al., 2007) loaded highly on a single factor, which was labelled observer perspective. In the same analysis, items on the Cognitive Fusion Questionnaire (Gillanders et al., 2014) loaded highly on a second single factor. These items all aligned with regulated reactivity to thought content (when items were reversed), and the items had high reliability. These two emergent and confirmed factors of decentering were associated with greater coping self-efficacy, coping flexibility, and engagement coping and less interpersonal stress and disengagement coping, providing evidence of convergent validity of the decentering components. Inconsistent with what was expected, no items from the Experiences Questionnaire and the Cognitive Fusion Questionnaire loaded on a separate (third) meta-awareness factor in Study 1. However, the content of items loading highly on the first factor of observer perspective seemed to mix observer perspective and meta-awareness. This is not inconsistent with the metacognitive processes model of decentering (Bernstein et al., 2015), which draws attention to the dependency between observer perspective and meta-awareness.

A third factor was identified, however, whereby some items from the self-as-context measure (SAC; Zettle et al., 2018) loaded highly on a single factor. These items all referred to aspects of transcendent life reflection. This did not directly align with the metacognitive processes model of decentering (Bernstein et al., 2015). Therefore, the Experiences Questionnaire and the Cognitive Fusion Questionnaire contain items that do conform most directly with two of the metacognitive processes model of decentering. Moreover, as suggested in the metacognitive processes model of decentering, they may each tap into meta-awareness.

Overall, the measures used in this thesis were consistent with constructs that have been described as related to or consistent with decentering. However, the findings do also reveal the need for the development of new measures and this work seems to have been pursued concurrent with the studies conducted for this thesis. The Metacognitive Processes of Decentering Scale - Trait (MPoD-t) was published by Hanley et al. (2020) as data were being collected for the studies included in this thesis. The MPoD-t is a 15-item measure that consists of three subscales (5 items each) measuring the three metacognitive processes of trait decentering, that is, meta-awareness, (dis)identification with internal experience, and (non)reactivity to internal experience. In this study, perceived decentering abilities were sensitive to change following brief mindfulness practise. In response, a second version of the MPoD was developed using 3 MPoD-t items to measure state decentering (MPoD-s). The development of these measures provided a scale to separately measure all three lower-order factors (i.e., meta-awareness, disidentification with internal experience, and nonreactivity to internal experience) which can also be modelled as subserving an emergent higher order factor of trait decentering. As such, the development of the MPoD-t could be integrated with the approach used in this thesis based on the metacognitive processes model of decentering (Bernstein et al., 2015). In addition, comparable to the present findings, Hanley et al. (2020) also found that effect sizes varied when the three decentering subscales were correlated with other measures. For example, Hanley et al. (2020) found that nonreactivity to internal experience (i.e., regulated reactivity to thought content) was more strongly associated with psychological wellbeing compared to disidentification with internal experience (i.e., observer perspective), whilst meta-awareness was not significantly associated with psychological wellbeing. It will be informative to use the MPoD-t in future stress and coping research, particularly within romantic couple stress, as a further test of the hypotheses of this thesis. In addition, it seems important to include the measures of decentering used in Studies 1, 2, and 3 of this thesis and the MPoD-t together in future research to compare their ability to explain stress responding and adjustment outcomes, even within community survey research or clinical interventions.

General Conclusion 2: Differential Relations of Decentering Components with Stress, Coping, and Relationship Well-being

Consistent with research in the areas of stress and coping (Compas et al., 2017; Randall et al., 2023; Skinner & Zimmer-Gembeck, 2016; Zimmer-Gembeck & Skinner, 2011; 2016; 2023), the ways in which individuals process thoughts, regulate reactivity, and cope with stressors are important unique factors and mediators of the impact of stress on current and future wellbeing. The current thesis studies showed consistent results of which metacognitive processes of decentering stood out as most important in their link to ways of coping and romantic relationship wellbeing during relationship stress. Specifically, in Studies 2 and 3, when comparing strength of significant associations, the metacognitive processes of meta-awareness and regulated reactivity to thought content (cf. observer perspective) stood out in relation to their positive links with less use of disengagement ways of coping in response to relationship stress and better relationship wellbeing. This is important given the detrimental effect disengaging during romantic relationship stress can have on relationship wellbeing (Falconier & Kuhn, 2019; Knee, 1998; Papp & Witt, 2010) and suggesting that the metacognitive processes of decentering tested in this thesis are compensatory factors against disengaging when dealing with romantic relationship conflict.

Furthermore, these findings support previous research studies (Ayduk & Kross, 2010; Laurent et al., 2016) that found decentering promoted more positive coping (and less negative coping) responses with stress but also extended research by finding evidence of coping strategies as a mediator linking decentering to romantic relationship wellbeing. In addition, the decentering process of observer perspective was more strongly associated with greater coping flexibility and coping self-efficacy (i.e., strong effect) compared to regulated reactivity to thought content (i.e., medium effect). Thus collectively, the findings of all three studies consistently found that the metacognitive processes of decentering have more influence at different times along the stress-coping-adjustment process for individuals in couples' relationships. The thesis research provides greater understanding of when different aspects of decentering may be of greater benefit when coping with relationship stressors and promoting relationship wellbeing, and as a future research priority, could guide clinical and other intervention programs to improve coping with interpersonal and romantic stress.

Meta-awareness Differential Findings. The foundational component of decentering identified in the metacognitive processes model of decentering (Bernstein et al., 2015; see Figure 2.1) was meta-awareness. In the current thesis, it was expected that meta-awareness would be beneficial in the stress-coping-adjustment process of relationship stress, as it supports the ability to be aware of the processes of one's inner experience (e.g., the process of thoughts and emotions) and to be present in the moment, which is linked to greater relationship satisfaction (for a review see Daks & Rogge, 2020). Meta-awareness has been described as a positive resource for the regulation of reactivity to these inner experiences (Bernstein et al., 2015; 2019) through broadened awareness (Garland et al., 2019). In the current thesis, the first study found no emergent meta-awareness factor from the three included measures, so the Mindful Attention and Awareness Scale (MAAS;

Brown & Ryan, 2003) was added in Studies 2 and 3 to capture meta-awareness along with two of the previous measures used in Study 1 to measure observer perspective and regulated reactivity to though content. This revealed consistent findings across Studies 2 and 3, which supported positive links found in previous research between metacognitive processes and coping (Ayduk & Kross, 2010; Laurent et al., 2016) and relationship satisfaction (Daks & Rogge, 2020)

Observer Perspective Differential Findings. In Studies 2 and 3 all three metacognitive processes of decentering were associated with less disengagement ways of coping (also consistent in Study 1 for observer perspective and regulated reactivity to thought content), less romantic relationship conflict and more relationship satisfaction. Furthermore, one metacognitive process of decentering, observer perspective, was positively linked to engagement ways of coping (also consistent in Study 1). Studies 2 and 3 differed in that Study 2 found all three processes of decentering were linked to increased romantic relationship conflict resolution whereas Study 3 only found observer perspective was positively linked. The effect sizes were small, so it is possible that a reduction in power (Study 2 = 357 participants cf. Study 3 = 152 participants) may have been responsible for these differing results (Verma & Verma, 2020). Additionally, whilst the findings across Studies 2 and 3 consistently found weaker associations for the metacognitive process of observer perspective compared to meta-awareness and regulated reactivity to thought content in the stress-coping-adjustment process (i.e., ways of coping), observer perspective was found to be linked to several constructs of interest. Specifically, regarding ways of coping, young adults' reports of their ability to take an observer perspective was positively linked to more engagement coping (small to medium effect) and less disengagement coping (small to strong effect) across all three thesis studies. Observer perspective was also positively linked to coping flexibility with a strong effect in

Study 1, coping self-efficacy with medium to strong effect in Studies 1 and 2, and perspective-taking with small effect in Study 3. Relating to outcome measures, observer perspective was positively linked to interpersonal stress with medium effect in Study 1 only and relationship wellbeing (relationship conflict, conflict resolution, and satisfaction) with small effects in Studies 1 and 2.

Thus, individuals’ perception that they are better able to take an observer perspective does have some links to the stress-coping-adjustment process when exploring stress appraisals and reappraisals, particularly controllable stress appraisals, the way an individual reflects on negative experiences, and their engagement in constructive coping responses (e.g., problem solving; Ayduk & Kross, 2010). Indeed, in extant research, the metacognitive process of observer perspective has been found to be related to lower emotional reactivity through less recounting of negative experiences as more reconstruing of these negative experiences (Ayduk & Kross, 2010). Thus, past research and the current thesis findings support the argument that, whilst the metacognitive process of observer perspective was not found to be directly linked to relationship wellbeing via coping responses (Study 2), it does play a role in reduced reactivity to inner experiences. Therefore, due to the interrelationships between the metacognitive processes of decentering, all components, including observer perspective, were shown with varying effects to be beneficial in the stress-coping adjustment process within romantic relationships (Study 2 and 3).

Regulated Reactivity to Thought Content Differential Findings. Whereas observer perspective was the only metacognitive process linked to engagement ways of coping across all three studies in this thesis, in comparison regulated reactivity to thought content was found to have the strongest association with disengagement ways of coping across all studies (cf. meta-awareness and/or observer perspective). Furthermore, regulated reactivity to thought content was not only directly linked but had three indirect links (cf. meta-awareness = 2 links; and observer perspective = 0 links) to relationship wellbeing (relationship conflict, conflict resolution, satisfaction) via disengagement ways of coping (Study 2). These findings support and expand past research where reduced reactivity during relationship conflict has been found to be linked to lower attachment anxiety and negative conflict behaviour and greater relationship satisfaction (for a review see Daks & Rogge, 2020) by exploring the role of the metacognitive processes of decentering within the stress-coping-adjustment process of romantic relationships at the individual and dyadic level.

Altogether, as discussed previously, the metacognitive processes of decentering are proposed, and research supports, to be inter-related processes that support and reinforce each other (Bernstein et al., 2015; Garland et al., 2017). Together, past research and this thesis' findings support the idea that when an individual is experiencing relationship stress, efforts to increase decentering abilities are likely to coincide with the individual perceiving more relationship wellbeing. It is plausible that when an individual experiences relationship stress and they engage in mindful awareness of their thought processes in conjunction with regulating their reactions to such processes, they may appraise the stressors as more controllable, benign, and or meaningful, and thereby reduce their use of disengagement coping. However, future longitudinal studies are required to identify these causal relations.

General Conclusion 3: Decentering as a Potential Resource for Partner Relationship Wellbeing when Experiencing Relationship Stress

When experiencing romantic stressors, influences within couples go beyond an individual and how their own cognitive processes and ways of appraising relate to their coping with stressors and relationship wellbeing to appraising and coping with stress as an interactional process (Bodenmann, 1997; 2005). Such theories and research inform the importance of understanding the cognitive processes influencing stress and coping at the dyadic level. Thus, the thesis research was novel and expanded on previous decentering and coping within romantic relationship stress research by exploring the role of the metacognitive processes of decentering, perspective-taking, coping responses, and relationship wellbeing beyond the individual to examine how decentering in one member of a couple may impact on the other couple member's coping, perspective-taking during a conflict discussion, and relationship well-being.

Consistent with thesis research findings at the individual level (Study 1 and 2), decentering associations with disengagement coping stood out when compared to associations with engagement coping. Thus, a general conclusion can be made not only at the individual level but at the couple level for links between greater decentering and less disengagement coping in the context of relationship stress. Accordingly, when couples are engaging in stressful romantic relationship discussions, one partner's greater ability to decenter appears to be a protective factor in influencing their partner's decreased tendency to disengage as a way of coping with conflict. As discussed in general conclusion 2, this is notable given the detrimental effects on relationship wellbeing and conflict resolution when dealing with relationship stress (Falconier & Kuhn, 2019; Knee, 1998; Papp & Witt, 2010).

Whilst other partner effects were expected for decentering and ways of coping and relationship wellbeing, they were not widespread beyond disengagement coping. The only other partner effect that approached significance was for romantic conflict resolution suggesting that one partner's greater decentering ability may be linked to their partner's perception of more resolution during romantic conflict. These findings are promising and whilst a general conclusion cannot be drawn beyond the link between decentering and disengagement ways of coping within couples, it does support future research exploring these links with a larger population given the significant results found at the individual level. Thus, the collection of studies in this thesis provided evidence of the supportive role decentering showed both at the individual and couple level within relationship stress, coping, and promoting relationship wellbeing.

Recommendations for Future Research

Following from these three general conclusions, three recommendations for future research emerge from the current study findings. First, noteworthy is that all measures in Study 1 and 2, and most in Study 3 were self-reported. This might be of concern given that self-report of psychological constructs and behaviours can depend on awareness and metacognitive processes (for a review see Craig et al., 2020). Alternatively, these processes could also be measured using observation to reduce inexact introspective ability and response bias (Fleming & Lau, 2014). Such measures do exist for meta-awareness, for example, the Measure of Awareness and Coping in Autobiographical Memory (MACAM; Moore et al., 1996) presents eight situations via audiotape and asks respondents to imagine themselves in these situations followed by a semi-structured interview where content is coded for level of meta-cognitive awareness. Additional to this type of observational measure are metacognitive tasks for measuring whether metacognitive knowledge, anticipation, and evaluation of performance predict metacognitive sensitivity (Terneusen et al., 2023). Whilst these measures offer potential alternatives to self-reports and their encumbrances, the MACAM poses other issues such as being labour intensive and expensive whilst metacognitive tasks are yet to be adapted and researched for suitability to measuring the metacognitive processes of decentering. Additionally, the items used for the decentering metacognitive processes of observer perspective (i.e., EQ) and regulated reactivity to thought content (i.e., CFQ) differed in item valence (i.e., EQ positive valence;

CFQ negative valence) and therefore it is possible that such direction of coding (i.e., response sets and biases) might explain patterns of association (e.g., CFQ more strongly predicting negative coded coping measures and the EQ more strongly predicting positive coded coping measures). Therefore, further research is recommended for viable alternatives to self-report measures of decentering.

Secondly, studies were conducted in a single urban area of Australia with university students suggesting that whilst findings may be generalizable to urban university young adults, they may not be generalizable to other diverse age groups living outside of urban regions such as rural areas or countries with varying demographics. Furthermore, Study 3 may not be generalizable to couples in shorter or longer relationships (the limit was 2-5 years), diverse age groups, non-students, and those in other regions. Thus, it is recommended that future research is conducted to replicate and extend these findings for generalizability to broader age groups, regions, and relationship duration.

Thirdly, all study measures were completed at one point in time and as such, causal relations, and direction of effects, between decentering and other measures need clarification in future research. Repeated measures research, either using experience sampling methods with many repeated measures over short periods of time or more traditional longitudinal designs would extend these study findings. These designs will move forward the study of directional associations between decentering, relationship-wellbeing, and stress coping processes. They will also allow for greater consideration of stress and coping as a process that unfolds over time (Lazarus, 1998).

Practical Implications

The current research findings are relevant to relationship conflict management efforts to shape individual strengths, which might seek to build individual strengths including meta-awareness, broadening perspective through an observer perspective, and reduced reactivity to internal experiences. Likewise, findings speak to intervention and treatment efforts for young adults who may be at risk for maladjusted interpersonal and relationship relating styles. Specifically, preventative efforts that directly target the reduction of disengagement coping responses, measured here as denial, avoidance, distraction, wishful thinking, emotional numbing, cognitive interference, inaction, and escape which confer risk for relationship dissatisfaction. Thus, inclusion of teaching strategies which seek to increase young adults' awareness in the moment, teach disidentification with internal experiences (e.g., broadened perspective of self), and reduced reactivity to internal experiences, could be practical applications for preventing relationship disengagement and promoting relationship conflict resolution and relationship satisfaction. Accordingly, the findings from Studies 1 – 3 reveal important mechanisms of change that can be directly targeted for young adults in community settings (e.g., relationship conflict treatment centres) experiencing interpersonal and romantic relationship stress.

Thesis Findings Supporting Past Research and Current Clinical Practice

The series of studies in this thesis support comprehensive theories of relationship satisfaction and longevity which argue the need to identify individual abilities that are intrinsic or can be cultivated to promote relationship wellbeing (Gottman et al., 2002). This is particularly important when individuals and couples are experiencing relationship conflict with Gottman and Gottman (2017) finding conflict is easier to manage when people are physiologically calm (i.e., emotion regulation). To this aim, this thesis shows which metacognitive abilities are linked to greater relationship wellbeing in support of current clinical practice. Specifically, an individual's ability to observe and regulate reactivity to thought content is linked to less interpersonal stress (Study 1) and the ability to be present in the moment (i.e., meta-awareness), take an observer perspective, and regulate one's reactivity to thought content are linked to greater relationship wellbeing (Study 2 and 3). In further support of past research and current clinical practice, Study 3 findings showed the metacognitive ability of observer perspective was linked to perspective-taking which is an individual skill that has been found to be related to less intense emotional responses to stressful relationship interactions and reductions in conflict (Erle & Topolinski, 2017). In other research, metacognitive skills, and the metacognitive abilities explored in this thesis, have been employed in mindfulness inventions exploring relationship wellbeing (for reviews see, Allen et al., 2021; Winter et al., 2021). For instance, the daily practice of being present in the moment (i.e., meta-aware) and to take an observer perspective without judgement during a 3-minute online mindfulness exercise has been found to be beneficial for relationship wellbeing and partner acceptance (Kappen et al., 2019). Thus, past research and the thesis' study findings here support the promotion of metacognitive abilities within psychological clinical practice in the treatment of managing relationship conflict and promoting relationship wellbeing in individuals and couples experiencing interpersonal and romantic relationship stress. Particularly, the thesis findings support the psychoeducation and promotion of meta-awareness, observer perspective, and regulated reactivity to thought content when a young adult individual, experiencing romantic relationship stress, has been clinically assessed with lower coping self-efficacy, and/or less use of engagement coping (i.e., observer perspective only), and/or more disengagement or avoidant ways of coping with relationship conflict in the promotion of relationship wellbeing.

Thesis Findings Expanding Past Research and Enhancing Current Practice

The thesis research was novel and expanded on previous decentering and coping within romantic relationship stress research by exploring the role of the metacognitive processes of decentering, perspective-taking, coping responses, and relationship wellbeing beyond the individual to examine how decentering in one member of a couple may impact on the other couple member's coping, perspective-taking during a conflict discussion, and relationship well-being. In this way, the thesis research (Study 3) helps to inform which metacognitive abilities support relationship wellbeing for young adult couples experiencing romantic relationship stress. Thus, Study 3 findings provide evidence to support the psychoeducation and promotion of meta-awareness, observer perspective, and regulated reactivity to thought content in psychological clinical practice. Significantly, the promotion of all three metacognitive abilities is indicated when either partner in a couple are engaging in denial, avoidance, wishful thinking, emotional numbing, cognitive interference, inaction, and/or escape as ways of coping with relationship conflict with the goal of promoting greater wellbeing in the relationship.

Conclusion

It is common for young adults to experience increased relationship stress and conflict which for many ends in relationship dissolution, including divorce (ABS, 2020; Kanter et al., 2022). Conversely, committed and satisfying romantic relationships are foundational to better mental well-being and general health (e.g., Lawrence et al., 2019). Some young adults are at greater risk of responding poorly to romantic relationship stress or having a greater emotional fallout after experiencing such interpersonal stress. Taken together, findings from the three studies conducted for this thesis indicate that, for young adults with reduced ability to decenter, experiences of relationship conflict along with coping through disengagement strategies serve as simultaneous but independent sources of risk for increased relationship dissatisfaction. The current research findings indicate that meta-awareness, an observer perspective, and ability to reduce reactivity to internal experiences, may be specific resources, among others, that independently reduce the risk associated with romantic interpersonal stressors and importantly promote relationship wellbeing. In this sense, the findings provide a framework that can be helpful in considering several metacognitive processes that may be indicated when young adults experience heighted relationship dissatisfaction in the face of interpersonal and romantic conflict. Of course, young adults are not passive recipients of their social experiences, and so continued examination of the multiple ways in which young adults respond to interpersonal and romantic stress will inform risk for reduced conflict resolution and relationship dissatisfaction, as well as identify and support young adults' capacities to thrive in romantic relationships.

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APPENDIX A (Study 1)
Information Sheet for Participants

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INFORMATION FOR PARTICIPANTS

Personal Flexibility and Associations with Stress and Coping

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The aim of this research is to advance understanding about how people adapt and respond to stress. Specifically, we are studying how different measures of personal flexibility relate to each other. We are also studying how flexibility relates to emotion regulation and coping responses. All Griffith University students are eligible to participate.

What you are being asked to do
You will complete a questionnaire about your personal experiences with flexible responding, your stress and how you cope with stressful experiences and difficult emotions. The survey will take approximately 20 minutes to complete.

The expected benefits and risks of the research
Your participation will contribute to knowledge about established measures of flexibility, as well as knowledge about real-world stress and coping. There are minimal risks in participating in this study. However, if you do experience distress, you may wish to contact a counsellor at Lifeline on 131114 or a counsellor at Student Services on 5678 8734.

Your confidentiality
Your responses and overall results are anonymous. You will not be asked to record your name on the questionnaire. In any reports resulting from the research, you will not be identifiable.

The storage of your information
All research data (survey responses and analysis) will be retained in a locked cabinet and/or a password protected electronic file at Griffith University for a period of five years before being destroyed.

Participation is voluntary
Participation in this study is completely voluntary. If, at any time, you wish to withdraw from the study, you are free to do so, without penalty and without having to explain the reasons for withdrawal. If you choose to participate, you will be eligible to receive a small treat (e.g., chocolate bar or coffee voucher) or course credit (.5 credit) if applicable.

The ethical conduct of this research
Griffith University conducts research in accordance with the National Statement on Ethical Conduct in Human Research. This project has been approved by the Griffith University Human Ethics Committee (reference number 2019/451). If you have any concerns or complaints about the ethical conduct of this research please contact the Senior Manager, Research Ethics on 373 54375 or [redacted]

Research output, feedback and further information
The results of the research will be disseminated in the form of journal articles and/or conference presentations. If you would like a copy of study results on completion, or if you have any questions about the study, please do not hesitate to contact a member of the research team shown above.

Yours faithfully,

Professor Melanie Zimmer-Gembeck

Completion and submission of the attached survey will be deemed as your consent to participate in this research. If you wish, please retain this cover sheet for your own reference. Thank you kindly for your attention and your participation!

APPENDIX B (Study 2)
Information Sheet for Participants

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INFORMATION FOR PARTICIPANTS

The Role of Decentering in Interpersonal Conflict

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Dear Potential Participant,
Thank you for your interest in this study. The aim of this study is to advance the understanding about how people adapt and respond to interpersonal stress in their everyday lives. Specifically, we are studying the cognitive ability of decentering. This is the ability to be a "fly on the wall" in order to take more of an outsider's perspective on your own behaviour and thoughts. We are studying whether decentering is related to emotional reactions to stress and coping with stress, and specifically ask questions about your current relationship with a partner (boyfriend, girlfriend, spouse, de facto relationship) whom you live with.

Study Eligibility

1. You are eligible to participate in this study if you are **between the age of 20 and 35 years**.
2. Also, because we will be asking you questions regarding your relationship with a partner, whether a boyfriend, girlfriend, spouse or de facto, you are eligible to participate in this study only if you **currently live with a partner**, and you have lived with this partner for **2 to 5 years.** If this is not the case, then many questions in the attached/following questionnaire will not be applicable to you.

What you are being asked to do
Participation in this research will involve you completing a questionnaire relating to your thoughts and feelings about stress, your experiences with responding to interpersonal stressors (e.g., conflicts), and how you cope with these experiences and any difficult emotions that may occur. The survey will take not more than 30 minutes to complete and it is completely confidential.

The expected benefits and risks of the research
By participating in this study, you will be contributing to knowledge relating to how people manage stress and how we might improve interventions to better stress responding and relationships. There are minimal risks anticipated from your participating in this study.

Your confidentiality
Your responses and all results from this study will be anonymous and confidential. We will ask for your contact details and permission to contact you in the future, as this study may involve some follow-up. However, you do not have to participate in any follow-up and you will not be asked to record your name on the questionnaire to ensure anonymity. In any reports of the findings from the research, no individual participant (i.e., you) will be identifiable.

Participation is voluntary
Participation in this study is completely voluntary. If, at any time, you wish to withdraw from the study, you are free to do so, without penalty and without having to explain the reasons for withdrawal. If you choose to participate, you will be eligible to receive a small gift or course credit (.5 mark), if applicable.

The ethical conduct of this research
Griffith University conducts research in accordance with the *National Statement on Ethical Conduct in Human Research*. This project has been approved by the Griffith University Human Ethics Committee (GU ethics reference number 2020/055). If you have any concerns or complaints about the ethical conduct of the research project you should contact the Senior Manager, Research Ethics on 373 54375 or [redacted]

Feedback and further information
If you would like a copy of the study results when available, or if you have any questions about the study, please do not hesitate to contact a member of the research team shown above.

Yours faithfully,

Professor Melanie Zimmer-Gembeck

Dr. Kathy Modecki

Narelle Duncan

Completion and submission of the attached survey will be deemed as your consent to participate in this research. If you wish, please retain this cover sheet for your own reference. Thank you kindly for your attention and your participation!

APPENDIX C (Study 3):
Study 3 Modifications to Study 2 Protocol

EMAIL REQUESTING AMENDMENTS

We write to request a variation to our approved protocol for "The Role of Decentering in Interpersonal Conflict" (2020/055). Specifically, we request approval for the following:

1) To expand the research to include a 30 minute online interpersonal task with participants (i.e., couple) via TEAMS facilitated by the researcher. The task will involve:

a) each individual in the couple will complete a brief electronic survey (see Appendix B1 for the complete questionnaires and Appendix C for a list of included measures)
b) an 8-minute recorded discussion of a relationship problem identified by the researcher as indicated in the completion of their Appendix A questionnaire
c) completion of a brief electronic survey (see Appendix B2), and
d) a debrief to identify any distress or concerns raised by the task discussion and referrals provided (e.g., Relationships Australia, Lifeline, RESPECT).

2) Participants for the online interpersonal task will be from strata of participants, and their partner, who provided consent to be contacted for future studies from the approved 2020/055 study

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INFORMATION FOR PARTICIPANTS

The Role of Decentering in Interpersonal Conflict

RESEARCH TEAM:

Chief Investigators:
Professor Melanie Zimmer-Gembeck
School of Applied Psychology, Griffith University
Griffith University
[redacted]

Dr Alex Gardner
School of Applied Psychology,
[redacted]

Student Investigator:
Narelle Duncan
School of Applied Psychology, Griffith University
[redacted]

Dear Potential Participant,
Thank you for your interest in this study. The aim of this study is to advance the understanding about how people adapt and respond to interpersonal stress in their everyday lives. Specifically, we are studying the cognitive ability of decentering. This is the ability to be a "fly on the wall" in order to take more of an outsider's perspective on your own behaviour and thoughts. We are studying whether decentering is related to emotional reactions to stress and coping with stress, and specifically ask questions about your current relationship with a partner (boyfriend, girlfriend, spouse, de facto relationship) whom you live with.

Study Eligibility

3. You are eligible to participate in this study if you or your partner are **between the age of 20 and 35 years** (one partner may be outside this age range).
4. Also, because we will be asking you questions regarding your relationship with a partner, whether a boyfriend, girlfriend, spouse or de facto, you are eligible to participate in this study only if you **currently live with a partner**, and you have lived with this partner for **2 to 5 years.** If this is not the case, then many questions in the attached/following questionnaire will not be applicable to you.

What you are being asked to do

Participation in this research will involve you firstly, completing a questionnaire relating to your thoughts and feelings about stress, your experiences with responding to interpersonal stressors (e.g., conflicts), and how you cope with these experiences and any difficult emotions that may occur. The survey will take not more than 30 minutes to complete and it is completely confidential. Secondly, in a separate session (no later than one week from completing this survey) you and your partner will engage in a 30 minute online session to complete a brief questionnaire and "relationship interaction task" facilitated by one of our researchers.

The expected benefits and risks of the research

By participating in this study, you will be contributing to knowledge relating to how people manage stress and how we might improve interventions to better stress responding and relationships. There are minimal risks anticipated from your participating in this study.

Your confidentiality

Your responses and all results from this study will be anonymous and confidential. In any reports of the findings from the research, no individual participant (i.e., you) will be identifiable.

Participation is voluntary

Participation in this study is completely voluntary. If, at any time, you wish to withdraw from the study, you are free to do so, without penalty and without having to explain the reasons for withdrawal. If you choose to participate, you will be eligible to receive a small gift if applicable.

The ethical conduct of this research

Griffith University conducts research in accordance with the *National Statement on Ethical Conduct in Human Research*. This project has been approved by the Griffith University Human Ethics Committee (GU ethics reference number 2020/055). If you have any concerns or complaints about the ethical conduct of the research project you should contact the Senior Manager, Research Ethics on 373 54375 or [redacted]

Feedback and further information

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Yours faithfully,

Professor Melanie Zimmer-Gembeck

Dr. Alex Gardner

Narelle Duncan

Completion and submission of the attached survey will be deemed as your consent to participate in this research. If you wish, please retain this cover sheet for your own reference.

Thank you kindly for your attention and your participation!