

PARENT-ADOLESCENT REMINISCING AND YOUTH PSYCHOPATHOLOGY: A
CROSS-SECTIONAL AND LONGITUDINAL INVESTIGATION

BY

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ABSTRACT

Parent-child conversations about past experiences—*reminiscing*—are key in children’s growing emotional competency and their psychological well-being (Salmon & Reese, 2016). Very little research, however, has investigated the relationship between parent-adolescent reminiscing conversations and *adolescent* psychological adjustment, which is particularly important because adolescence is a period of heightened risk for the development of rumination and internalising disorders, especially anxiety and depression (Miller-Slough & Dunsmore, 2016). This thesis extended the literature on reminiscing in three ways. First, we examined different qualities of mother-adolescent reminiscing and their relationships to psychological outcomes during the period of middle adolescence. Second, we investigated the associations between mother-adolescent reminiscing qualities and youth rumination and internalising symptoms (anxiety and depression), cross-sectionally and longitudinally to help disentangle the direction of the associations. Finally, we applied dyadic methods of coding and statistical analyses in a novel approach that modelled the transactional nature of reminiscing conversations and their associations with youth psychological outcomes.

In Study 1 we tested the discriminant and convergent validity of a dyadic coding scheme, for use on parent-adolescent conversations about past events. The aim of Study 1 was to establish the methodological foundations for examining parent-adolescent reminiscing conversations in a way that lends itself to dyadic analysis. To do this, two coding schemes (a traditional reminiscing scheme and a dyadic scheme) were applied to a community sample of 67 mother-adolescent dyad and their conversations about a past shared conflict event. Consistent with our predictions, parent-adolescent reminiscing qualities that extended the conversation and promoted highly detailed narratives were correlated with supportive interpersonal processes that endorsed co-construction and collaboration during the discussion. In contrast, qualities that discontinued the conversation were correlated with unsupportive interpersonal processes that promoted avoidance/disengagement and repetitive problem engagement. Next, we applied the dyadic coding scheme to assess the transactional relationships between parent-adolescent reminiscing qualities and youth rumination and internalising symptoms.

In Study 2 we tested the cross-sectional (Study 2a) and longitudinal (Study 2b) relationships between parent-adolescent reminiscing qualities and youth rumination, anxiety, and depression. Using the same sample of 67 mother-adolescent dyads in Study 1, transcripts of the past conflict discussions were coded dyadically for unsupportive and supportive mother and adolescent reminiscing qualities. Self-report measures of rumination, anxiety, and

depression were also collected from mothers and adolescents, respectively. The adolescents then completed the same self-report measures at a follow-up time-point one year later. Overall, dyadic analyses found no significant associations between mother-adolescent reminiscing qualities and youth rumination or depression, cross-sectionally or longitudinally. We did, however, find a bi-directional relationship between unsupportive mother-adolescent reminiscing qualities and heightened anxiety symptoms cross-sectionally. The concurrent findings suggest that mothers and adolescents are mutually reinforcing youth anxiety symptoms, in part, through the promotion of emotional avoidance. Furthermore, exploratory moderation findings, indicated a significant buffering effect of youth engagement in supportive conversational qualities during reminiscing about past negative events with their mothers, and lower levels of youth anxiety over time. These findings have implications for practice and theory. First, in terms of clinical intervention, the research refines our understanding of interpersonal factors related to youth anxiety during middle adolescence, in particular the role of the parent-adolescent reminiscing conversations. Second, the current research highlights the importance of adopting interpersonal methods when studying parent-adolescent interactions as a way to accurately model and test the inherently interpersonal nature of reminiscing.

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THESIS STRUCTURE

This thesis is comprised of four chapters. Chapter 1 is the general introduction that provides an overview of the major theoretical underpinnings to the current research. Chapters 2 and 3 present studies 1 and 2 (2a and 2b) and are both in manuscript format (in preparation for submission to peer reviewed journals). Therefore, their respective write-ups contain an abstract, introduction, method, results, and discussion sections. For this reason, there is some repetition between Chapter 1, 2, and 3 in terms of literature reviewed, terms used, and the contents of the method sections. Finally, Chapter 4 offers a general discussion that ties together the key findings and ideas across studies 1 and 2.

Note. Throughout this thesis, I have chosen to use the pronoun “we” when referring to the first-person. I am, however, the first author of this thesis and research programme.

Chapter 1

General introduction

Overview

Theories of autobiographical memory emphasise that parents' conversations about past events with children play a key role in teaching children how to understand and manage their emotions. These conversations are a critical aspect of early-childhood socialisation practices and are labelled "parent-guided reminiscing" (Nelson & Fivush, 2004). Differences in the style and content of parent-guided reminiscing have been associated with children's socioemotional development, including their ability reflect on, manage, and recall coherent narratives of their emotional experiences (Fivush, Haden, & Reese, 2006). Given the importance of parent-guided reminiscing for children's emotion competencies, research suggests that processes of reminiscing have important implications in the development of children's psychological wellbeing (Sales & Fivush, 2005; for reviews see Fivush, 2007; Fivush et al., 2006; Salmon & Reese, 2015, 2016).

Extending the existing literature on maternal reminiscing and children's emotional development, the current research will explore the associations between reminiscing and youth psychological adjustment, more specifically internalising problems. The role of conversations about past events as a socialisation context of emotion competencies beyond early childhood has not been investigated to date. Yet young people are at markedly increased risk of experiencing depression, rumination, and anxiety during adolescence (Lyubomirsky, Layous, Chancellor, & Nelson, 2015) and so understanding how they come to manage their emotional experiences is of paramount importance. From the perspective that will be outlined below, we propose that parent and adolescent conversations about past events contribute to experiences of youth rumination and internalising symptoms (anxiety and depression) during middle adolescence. Across two studies, we examine the relationship between parent-adolescent reminiscing qualities and youth rumination, anxiety, and depression both cross-sectionally and longitudinally. Moreover, we apply dyadic methods of coding and analysis to capture the interdependent nature of reminiscing conversations. Note that throughout this thesis, the term internalising symptoms will be used interchangeably with anxiety and depression.

Adolescence and Youth Internalising Problems

Adolescence is marked by a greater intensity of emotional experiences, changes in social demands, and a striving for a greater sense of autonomy (Yap, Allen, & Sheeber, 2007). The interaction of cognitive, social and emotional changes during adolescence creates unique challenges (Blakemore & Mills, 2014; Dahl, Allen, Wilbretch, & Suleiman, 2018). In contrast

to childhood, adolescents are faced with developing a sense of belonging and self-identity as they negotiate transitioning to greater levels of independence from their parents (Steinberg & Morris, 2001). The drive for individuation brings about changes to the parent-child relationship that are associated with more conflict and less closeness between parents and their youth (Larson & Richards, 1991; Steinberg & Morris, 2001). A heightened sensitivity towards social evaluation and peer acceptance means that friendships become a key motivator of adolescent behaviour (Blakemore, 2018; Blakemore & Mills, 2014; Somerville, et al., 2013). All the while, adolescents are continuing to develop self-regulatory abilities to help them manage with increasingly complex emotional and social experiences.

Adolescence is also characterised by increased risk of mental health difficulties, particularly depression and anxiety (Cohen et al., 1993). In New Zealand (NZ), 1 in 5 adolescents are estimated to be at risk for developing depression by the age of 18 years, and almost 1 in 5 youth are at risk of developing an anxiety disorder by the age of 19 years old (Social Policy Evaluation and Research Unit [Superu], 2016). The long-term consequences of mental health difficulties can be detrimental at a societal level in terms of the social and economic costs of mental illness, as well as at the individual level for a person's quality of life (Social Policy Evaluation and Research Unit [Superu], 2017). Understandably, primary intervention research has focused on identifying predictors of adolescent depression and anxiety. Common psychological factors include an adolescent's ability to regulate their experience of negative emotions and distress (McLaughlin, Hatzenbuehler, Mennin, & Nolen-Hoeksema, 2011). For example, the escalation of a ruminative style of emotion management has been associated with the onset and maintenance of internalising disorders such as depression and anxiety during adolescence (Lyubomirsky et al., 2015; Waller & Rose, 2013).

Rumination is a form of repetitive negative thinking that is defined as a maladaptive emotion regulation strategy alongside avoidance and worry (Ehring & Watkins, 2008; Lyubomirsky et al., 2015; McEvoy et al., 2019). Repetitive negative thinking occurs in both depression and anxiety, although the focus of the negative thinking patterns may differ (i.e., anxiety tends to be associated with future orientated worry, while depression typically involves dwelling on past negative events (McEvoy et al., 2019). Levels of repetitive negative thinking increase during early adolescence, particularly for females, and is related to the increases in internalising symptoms, especially depression (Lyubomirsky et al., 2015; Nolen-Hoeksema, 1994). Despite differences in content, there is overlap in the function of repetitive negative thinking in maintaining anxiety and depressive symptoms (McEvoy, Watson, Watkins, & Nathan, 2013). Accordingly, some researchers regard repetitive negative thinking as a

transdiagnostic process, implicated in the development and maintenance of internalising disorders (McLaughlin & Nolen-Hoeksema, 2011; McLaughlin et al., 2011; McEvoy et al., 2019; Watkins, Moberly, & Moulds, 2008).

Parent Emotion Socialisation Behaviours and Youth Emotion Competencies

From an early age, parents and caregivers play a critical role in teaching their children how to recognise, label and manage their emotions. These skills are learnt by children in everyday interactions as they observe their parent responding to their emotional displays, and through discussing past emotional events (Eisenberg, Cumberland, & Spinrad, 1998; Morris, Silk, Steinberg, Myers, & Robinson, 2007). A growing number of empirical studies demonstrate that processes of emotion socialisation continue to be influential throughout adolescence for helping young people develop adaptive emotion management strategies (for a review see Miller-Slough & Dunsmore, 2016).

Key qualities in the way parents respond to their adolescent's emotional experiences are related to an adolescent's emotion competencies. These qualities are traditionally conceptualized within two broad categories: supportive or unsupportive behaviours (Morris et al., 2007). Supportive parent emotion socialisation behaviours include encouraging and validating the adolescent's expression of emotion; offering reassurance and using pro-active techniques such as positive reappraisal of negative emotional experiences (Brand & Klimes-Dougan, 2010). Supportive strategies offer immediate feedback about the acceptability of emotions to the adolescent. These strategies provide valuable opportunities for the adolescent to develop adaptive emotion competencies, including learning to label, make sense of and manage their emotional experiences constructively (Buckholdt, Parra, & Shields, 2014; Morris et al., 2007). In contrast, unsupportive behaviours include parental invalidation of adolescent emotion expression through control, avoidance, punishing or dismissing the adolescent's emotions, as well as magnifying or becoming overly focused on the negative emotions (Miller-Slough & Dunsmore, 2016; Morris et al., 2007). Research suggests that unsupportive parental emotion socialisation strategies teach adolescents that emotions are unacceptable and can heighten adolescent experience of distress and negative emotion (Miller-Slough & Dunsmore, 2016; Morris et al., 2007; see Schwartz, Sheeber, Dudgeon, & Allen, 2012 for review). Furthermore, unsupportive strategies may limit adolescents' opportunities to learn adaptive forms of coping with their negative emotions. Accordingly, several studies have demonstrated that unsupportive strategies are related to adolescent emotion dysregulation (Buckholdt et al., 2014; Yap, Schwartz, Byrne, Simmons, & Allen 2010; Crowell et al., 2013).

Parent Emotion Socialisation Behaviours and Youth Psychopathology

Research investigating the relationship between supportive and unsupportive parent emotion socialisation behaviours and adolescent emotion management skills has also been extended to youth psychopathology. Cross-sectional research examining this relationship have tended to focus on internalising symptoms as a broadband outcome that captures a cluster of emotion-related difficulties including anxiety and depressive symptoms. In these studies, the findings show consistent associations between greater supportive behaviours and fewer adolescent internalising symptoms (Stocker, Richmond, Rhoades, & Kiang, 2007; Klimes-Dougan et al., 2007), and between greater unsupportive behaviours and higher levels of internalising symptoms (Buckholdt et al., 2014; Jobe-Shields, Buckholdt, Parra, & Tillery, 2014; Klimes-Dougan et al., 2007; Stocker et al., 2007). The links between parent emotion socialisation behaviours and the specific internalising problems of youth depression, anxiety, and rumination have also been investigated and are reviewed next.

Depression. There have been two strands of research focused on examining relationships between parental emotion socialisation behaviours and youth depression: studies with community samples and studies with clinical populations (see Schwartz et al., 2012). In a cross-sectional study involving a community sample of youth (16-17 years), the relationship between parent supportive emotion socialisation behaviours and adolescent depression was examined. Mother-adolescent dyads engaged in two conflict discussions. Real-time video recordings of the conversations were later coded using a behavioural observation scheme that captured maternal behaviours reflecting supportive regulation (i.e., validation, reappraisal). The study found that maternal supportive behaviours were less likely during interactions with youth who presented with higher levels of depressive symptoms (Lougheed et al., 2016). Similarly, in a 6-year prospective study (Schwartz et al., 2014), mothers who responded to their adolescent's emotional states with less supportive behaviours (e.g., approval, affection) during early adolescence (11-13 years), predicted the onset of adolescent major depression disorder prospectively. Comparable patterns of findings are seen with unsupportive behaviours. In a cross-sectional study, Yap, Allen, and Ladouceur (2008) found that maternal invalidation of an adolescent's positive affect during concurrent mother-adolescent interaction tasks (problem-solving and event planning), were associated with higher levels of depression amongst typically developing young adolescents (ages 11-13 years old).

Studies involving clinically depressed youth find similar patterns of associations between unsupportive parental emotional socialisation behaviours and adolescent depressive symptoms. For example, in a cross-sectional study by Katz et al. (2014) differences in parents'

(mother and father) responses to adolescents' positive affect amongst clinically depressed youth compared to typically developing youth were examined. The adolescents were between the ages of 14 and 18 years. Information about parent's supportive (i.e., enhancing responses such as encouraging positive activities) and unsupportive (i.e., dampening responses such as minimizing) responses to adolescent positive affect was obtained via parent and adolescent self-report. In addition, the extent to which a parent accepted emotions was collected via interviews with parents and adolescents. Findings showed that parents of clinically depressed adolescents were less accepting of negative emotion and more likely to dampen the adolescent's positive affect (Katz et al., 2014). Adopting a similar methodology and the same sample of parent-adolescent dyads as Katz et al. (2014), concurrent research conducted by Shortt et al. (2016) compared patterns of unsupportive parent (mother and father) behaviours during interaction tasks with clinically depressed youth or typically developing youth. Adolescents presenting with clinical levels of depression were more likely to receive unsupportive responses (i.e., punitive reactions) and less likely to receive supportive responses, from their parents during problem-solving interaction tasks (Shortt et al., 2016). In contrast, however, a prospective longitudinal study (Sheeber, Hops, Andrews, Alpert, & Davis, 1998) found that mothers of clinically depressed adolescents (14-19 years) were *more* likely to respond to their adolescent's negative emotions with supportive behaviours (e.g., approving statements, caring affect). The same pattern was present at follow-up, 12 months later. Consistent with this finding, a review by Schwartz et al. (2012) suggested that parental supportive responses (e.g., warmth, affirming statements and validation) in response to negative emotional states experienced by clinically depressed adolescents may function to perpetuate depressive symptoms by reinforcing dysphoric emotions.

Taken together, these studies suggest that there is an association between adolescent depression and parental emotion responding to adolescent positive and negative affect. Yet the direction of these findings is unclear. The contradictory findings relating to parent emotion socialisation behaviours and adolescent depression suggest that unsupportive parent emotion socialisation strategies are associated with greater depressive symptoms in community samples of youth, while supportive emotion socialisation strategies (i.e., validating adolescent negative emotion expression) may be unhelpful in prolonging depressive symptoms in clinical samples of depressed youth.

Anxiety. Whereas there is some evidence that unsupportive parental responses to adolescent negative and positive emotion is related to adolescent depression, emotional avoidance appears to be related to adolescent experiences of anxiety. Suveg et al. (2008)

demonstrated this relationship in a cross-sectional study involving clinical and non-clinical samples of anxious youth (8-13 years). In the study, parents (mother and fathers) and their youth discussed times when the adolescent felt anxious, angry, and happy. The conversations were then coded for parent emotion socialisation behaviours, including parental discouragement of emotion discussion, use of explanatory details (i.e., causes and consequences) to discuss the emotions experiences, and for affective tone. Findings showed that parents of anxious children were less likely to discuss emotions, offered fewer explanatory details related to the emotions, had a heightened focus on negative emotions, and were discouraging of the adolescent's negative emotion expression. The authors speculated that parent unsupportive responses may encourage emotional dysregulation (e.g., avoidance) and in turn heighten symptoms of anxiety. The findings suggest that parent's failure to discuss negative emotions in the context of their causes and consequences with their youth may not provide a supportive socialisation context for the adolescent to develop effective strategies of emotion management (Suveg et al., 2008). The cross-sectional nature of this study makes it difficult to draw such causal conclusions between parent emotion socialisation behaviours and adolescent anxiety symptoms, however. Although very few studies have investigated specific parent emotion response and discussion behaviours associated with youth anxiety, the relationship between parenting styles more generally, and youth anxiety symptoms has been studied in more depth. In a meta-analysis of adolescent (12-18 years) anxiety symptoms, Yap, Pilkington, Ryan, and Jorm (2014) found negative concurrent associations between parental warmth (i.e., expressions of involvement and positive regard towards the adolescent) and youth anxiety. Moreover, parental aversiveness (i.e., hostile, critical) and withdrawal (i.e., lower levels of reciprocity, interest or emotional support towards the adolescent), were moderately associated with higher levels of adolescent anxiety symptoms. The studies presented here provide further evidence of emotionally unsupportive parenting styles related to youth anxiety.

Rumination. The limited research investigating parent emotion socialisation behaviours in the development of youth rumination, have focused on two contexts: 1) the macro processes of the family environment such as parenting styles; and 2) parent-adolescent emotion discussions. First, in terms of parenting styles, longitudinal research has found that lower levels of positive parenting styles (i.e., emotional care, approval, validation) observed during mother-child interaction tasks (problem-solving and event planning) at age 12 years was related to greater adolescent reports of rumination concurrently as well as at ages 15 and 17, respectively (Gate et al., 2013). Similarly, in a longitudinal study (Hilt, Armstrong, & Essex, 2012) an over-controlling (i.e., restrictive) parenting style as well as heightened negative-submissive

emotional displays (that is expressions of sadness and guilt) in the family during early childhood (parent self-reported at 3.5-4.5 years) was prospectively related to greater youth rumination in adolescence (ages 13 and 15 years). In contrast, in a prospective study conducted during adolescence (Cox, Mezulis, & Hyde, 2010), mothers who encouraged greater emotion expression by their adolescent (i.e., responded to adolescent emotion with attention and support) during a behavioral observation task completed when the adolescent was 11 years had adolescents who self-reported more rumination 4 years later (age 15 years). Collectively, there is some support to suggest that unsupportive parenting styles, primarily during parent-child interactions, are related to rumination during adolescence (Nolen-Hoeksema, 1991). Second, parent responses during emotion discussions with their adolescent have also been related to youth rumination. A recent cross-sectional study found that mothers who self-reported encouraging emotion disengagement strategies (i.e., denial, avoidance and distraction) and, in addition, engaged in fewer approach behaviours (i.e., problem-solving, support seeking, positive thinking) had young adolescents (M age = 12.4 years, SD= .77 years) who presented with greater levels of rumination (Stroud & Fitts, 2017).

The research examining the relationship between emotion socialisation behaviours and rumination is limited and has predominantly focused on interactions between parents and young children. However, overall, there is some evidence to suggest that parental encouragement of under-regulated (i.e., avoidance and denial of negative emotion as well as having a heightened focus on negative emotions) styles of emotion management are prospectively related to greater youth rumination. Of the research that has investigated emotion socialisation behaviours during parent-adolescent interactions, most have utilised parent self-report measures. This is a methodological limitation because it narrows the focus of research to only parental behaviours. By doing so, it precludes investigation into parent-adolescent dynamics during emotion discussions as well as identifying any mutual effects of parents and adolescents on youth levels of rumination. For example, the research findings cannot conclude on how parents and adolescents are simultaneously shaping each other's contributions during the interaction through processes such as mutual influence. Nor can it establish how parents and adolescent's emotion socialisation behaviours during interaction are independently and collectively affecting youth rumination.

In summary, adolescence is a period of development marked by a convergence of social, emotional, and biological changes and challenges. It is also a time of increased vulnerability to increases in anxiety, depression and rumination. Understanding the ways in which adolescents develop the skills to understand and manage emotional experiences adaptively is, therefore,

particularly important. Emotion socialisation through the parent-adolescent relationship is one interpersonal context important for fostering these skills in youth. Overall, the main findings from research with community adolescents suggest that there is considerable overlap in the parental socialisation behaviours that are associated with depression, anxiety, and rumination. In general, supportive parental emotion socialisation behaviours (e.g., emotional support and validation, supportive regulation strategies such as reappraisal) have been concurrently linked to adaptive emotion competencies in adolescents and inversely related to youth internalising symptoms including anxiety and depression. Unsupportive behaviours (e.g., emotional invalidation such as discouraging or magnifying emotion expression) during parent-adolescent interactions have been shown to be concurrently associated with greater levels of youth anxiety, depression and rumination symptoms. There are, however, three key limitations to the emotion socialisation research reviewed.

First, one major limitation is the largely cross-sectional nature of the findings. The concurrent associations between specific parent emotion socialisation behaviours during parent-adolescent interactions and adolescent depression, anxiety and rumination, respectively, makes it difficult to know the direction of the effects and whether parent emotion socialisation behaviours play a causal role in adolescent experiences of psychopathology symptoms. Second, for the most part, the studies did not systematically test the bi-directional effects of youth psychopathology symptoms and parent's emotion socialisation behaviours during parent-adolescent interactions (Kerr & Stattin, 2003). By taking a parent-oriented approach, researchers risk oversimplifying processes of socialisation that are theoretically described as involving mutual influences between both persons in the dyad (Kerr & Stattin, 2003). For example, it is not clear whether the parent's behaviours are reactions to the demands of the adolescent's symptoms (i.e., need for emotional support) or whether parent socialisation processes play a causal role in the development of adolescent symptoms. Third, one emotion socialisation context that has received less acknowledgement in research on emotion socialisation in adolescence, are discussions of past events (reminiscing) between parents and their youth. Although, methodologically, observations of parent-adolescent interactions have been utilised when examining emotion socialisation behaviours, many of the studies involve parent-adolescent engagement in concurrent tasks (i.e., problem-solving, event planning, or other behavioural tasks). Yet, from a theoretical perspective, parent-child discussions about *past* events are a critical context for the socialisation of children's, and possibly adolescents', socioemotional competencies (Wareham & Salmon, 2006; Salmon & Reese, 2016).

Autobiographical Memory and Parent-Child Reminiscing

Autobiographical memory (AM) is a memory system that integrates personally significant life experiences and knowledge about the self into a narrative, or “autobiography”, that contributes to the way a person understands the world, the past and future; and who they are (Fivush, 2011). Over the past three decades, research has focused on understanding the processes involved in the emergence of autobiographical memory during early childhood and the functions of autobiographical memories across development. To date, studies have demonstrated the role of autobiographical memory in social bonding, identity and psychological well-being (Alea & Wang, 2015; Bluck, Alea, Habermas, & Rubin, 2005; Fivush, 2007, 2011; Fivush, Marin, McWilliams, & Bohanek, 2009; Laible, 2004; Laible & Song, 2006; Reese, Macfarlane, McAnally, Robertson & Taumoepeau, 2020; Sales & Fivush, 2005).

From a theoretical perspective, conversations about the past between parents and children play a critical role in the development of AM. Seminal research has supported this theoretical tenet in demonstrating that from early childhood, mother-child reminiscing about past events encourages the development of AM by providing children with a culturally appropriate framework to structure their life narratives on (Fivush, 2011). More recently, there has been growing recognition of the role of maternal reminiscing in children’s social and emotional development (Fivush et al., 2006; Salmon & Reese, 2015, 2016).

Parent-Child Reminiscing: A Social Cultural Developmental Theoretical Perspective

Reminiscing is a social practice that helps set the foundations for a child’s socioemotional development through the process of conversation (Fivush, 2007; Fivush et al., 2006; Salmon & Reese, 2016). Grounded in the assumptions of Vygotsky’s (1978) Sociocultural Theory of cognitive development, Nelson & Fivush (2004) have proposed a Social Cultural Developmental Theory that highlights the central role of language and conversation as a mechanism for children’s autobiographical memory development. Specifically, the theory posits that parent-child reminiscing conversations provide a unique context within which children develop the necessary skills to narrate stories of past events (Nelson & Fivush, 2004). A core process of reminiscing is the co-construction of the memory narrative between a parent and child. It is through the shared dialogue and collaborative nature of these conversations that children internalise not only the narrative skills required to recall coherent and details memories, but also the social benefits of reminiscing (Laible, Murphy, & Augustine, 2013).

The process of parent-guided scaffolding is a key feature of reminiscing conversations. Scaffolding refers to the process by which primary caregivers provide young children with a conversational framework (for example, through comments, open-ended questions and reflection of event details) to initially guide a child's participation during discussions about the past (Manczak, McLean, McAdams, & Chen, 2015). Maternal styles of scaffolding during reminiscing have been extensively studied, with research identifying two styles of maternal reminiscing that occur along the dimension of elaboration: high elaborative and low elaborative (Fivush & Haden, 2003; Peterson & McCabe, 1992; see Wu & Jobson, 2019 for meta-analytic review for key characteristics of an elaborative reminiscing style). Highly elaborative mothers typically ask open-ended questions, add new event details such as evaluative content, and keep the conversation moving forward by providing and eliciting memory details from the child. In elaborative conversations, the narrative is highly detailed, the child is invited into the conversation, and together the parent and child construct a coherent story (Fivush, 2007; Nelson & Fivush, 2004). In contrast, low elaborative mothers tend to repeat their questions, and to ask more closed-questions and statements that do not invite a child's response. There is little new information added and, as a result, the story lacks a detailed narrative (Nelson & Fivush, 2004). Highly elaborative maternal reminiscing styles have been shown to be stable across early childhood (Harley & Reese, 1999; Reese et al., 1993) and are related to more secure attachment (Gini, Oppenheim, & Sagi-Schwartz, 2007; Laible, 2011). Importantly, across development the parent's style of elaboration are reflected in a child's own reminiscing style, with highly elaborative mothers having children who come to independently tell more detailed narratives (Haden, Haine, & Fivush, 1997; Reese et al., 2020).

The affective quality or emotional tone of the conversation between parent and child is also important. Research into the affective components of reminiscing conversations have highlighted dimensions of the conversations that facilitate the engagement of each member (Laible, 2004; Gini et al., 2007). Qualities such as level of warmth, support (including providing autonomy support through expanding on a child's theme or topic choice), communication, and inter-subjectivity (i.e., the parent and child being attuned) have all been identified as important dyad-level factors involved in reminiscing with young children (Cleveland & Reese, 2005; Gini et al., 2007; Laible, 2011; Laible, Murphy & Augustine, 2013; Laible & Song, 2006; Zaman & Fivush, 2013). Moreover, there is evidence to suggest that the structural and affective qualities of reminiscing have independent functions (Cleveland & Reese, 2005). That is, researchers have suggested that affective qualities of reminiscing may function to communicate to the child the value of talking about the past, while structural elements such as elaborations shape the

child's narrative skills (Zaman & Fivush, 2013). Thus, highly elaborative maternal reminiscing styles that are also high in affective quality involve the parent and child being responsive to each other's perspectives. There is negotiation and collaboration involved in the co-construction of the story, with the elaborative parent being ultimately child-centered in their focus and communicating that their child's input is valued (Laible, 2011).

Parent-Child Reminiscing, Emotion Socialisation and Psychological Outcomes

The role of language and conversation in the development of a young person's emotion competencies has been largely underrepresented in the broader emotion socialisation literature. We know, however, from a growing body of research that discussions about past emotion-laden events between a mother and child are an important context for emotion socialisation that is uniquely related to a child's socioemotional development, at least in Western (individualistic) cultures (Laible, 2004). For example, Laible and Song (2006) compared conversational qualities during a joint mother-child storybook reading task versus parent-child reminiscing in relation to a young child's emotion knowledge. The study showed that conversational qualities during reminiscing, including emotion content (i.e., references to emotional states) and maternal elaborations, were concurrently associated with greater emotional understanding in children compared to the storybook task. Furthermore, cross-sectional and short-term prospective research (6-month delay) report that reflecting on negative emotional experiences is a particularly effective reminiscing context for developing a child's socioemotional competencies (Fivush et al., 2009; Laible, 2011; Laible et al., 2013; Reese, Bird, & Tripp, 2007). Compared to reminiscing about emotionally positive events, parent-child discussions about past negative events have been found to include more elaborations, greater reference to emotional states, more explanatory talk about causes and consequences, and evaluation of the event (Ackil, Van Abbema, & Bauer, 2003; Fivush et al., 2006; Fivush et al., 2009; Sales, Fivush, & Peterson, 2003). Thus, it seems that the reflective distance and use of language to bridge connections between the past and present during reminiscing about negative events, after the initial level of emotional arousal has subsided, may provide a context where children can develop a coherent representation of emotional experiences and emotion scripts, which likely contributes to laying the foundations for a child's emotion competencies (Fivush, 2007; Salmon & Reese, 2016).

Indeed, a small number of cross-sectional studies have found that mothers who are more elaborative and emotionally supportive during emotional reminiscing facilitate their young children's understanding and regulation of emotion. Concurrent studies with pre-school age children (age range between 3-5 years) have found higher levels of socio-emotional competence

amongst children whose mothers used more elaborative strategies such as open-ended questioning and detailed descriptions of the event, provided more explanations, emotional expressions and validations of their child's contributions when discussing past emotional events that the mother and child have experienced together (Laible, 2004, 2011). Providing causal support for cross-sectional relationships between elaborative reminiscing and a child's emotion competencies, intervention studies using experimental designs have found that mothers trained in elaborative styles of reminiscing, have children (ages ranging 3-6 years) who report greater emotion knowledge at a 6-month follow-up (Van Bergen, Salmon, Dadds, & Allen, 2009) and recall more emotion-rich narratives independently (Van Bergen & Salmon, 2010). Furthermore, the affective qualities of mother-child reminiscing (i.e., dyad-level variables capturing mother-child engagement, communication, and inter subjectivity) have also been linked a young child's emotion understanding and development of positive representations of relationships (Laible, 2004; 2011; Laible & Song, 2006; Laible et al., 2013). For example, in a cross-sectional study (Laible & Song, 2006), the affective qualities during parent-child discussions were concurrently associated with a child's socioemotional outcomes. In this study, affective qualities were defined as the extent to which the mother and child were emotionally engaged in the conversation. This was represented through a dyad-level variable made up of maternal and child warmth during the discussion, intersubjectivity (the extent to which the mother and child were united during the conversation, demonstrating shared interest and attention) and a mutual communication between the mother and child (Laible & Song, 2006).

Similar patterns of relationships between parent-child reminiscing and child socioemotional competencies are found in preadolescent samples. For example, Fivush and Sales (2005) conducted a cross-sectional study involving asthmatic children and examined the relationships between parent-child reminiscing qualities during a negative event and a child's coping skills and emotional well-being. Mothers and their preadolescent children (aged 9-12) were asked to discuss two stressful past events that they had experienced together: 1) a stressful acute event (i.e., the last emergency hospital visit related to an asthma attack) and 2) a chronic stressful event (i.e., the last time the mother and child had a conflict relating to the child's asthma treatment). Transcripts of the conversations were coded for narrative content, including maternal and child contributions of factual details, explanations (i.e., causes and consequences pertaining to the event), emotion talk (i.e., references to emotions and emotional states), and coping (i.e., any reference to how the individual managed the stressful situation of emotion). Correlational findings revealed that mothers who provided more causal explanations and

emotion talk when reminiscing about a chronic stressful event with their preadolescent child, had children who reported fewer internalising symptoms.

In a comparable cross-sectional study, Sales and Fivush (2006) examined the association between qualities of co-construction during mother-child conversations about a past stressful event and their preadolescent's coping skills. Transcripts of the reminiscing conversation were coded for narrative content and structure. Structural components of the conversation included: maternal and child use of elaborations (e.g., the provision of new details to the narrative) and evaluations (defined as statements that confirmed or negated what the other person has said). Maternal and child elaborations and evaluations were combined to represent a dyad-level variable of mother-child engagement to capture the extent to which the mother and child were co-constructing the narrative during reminiscing. In addition, the content of the reminiscing conversation was coded for, focusing on maternal and child use of explanatory and emotional talk. The study found that mothers who were more engaged and provided more emotion talk and evaluative content during reminiscing had preadolescent children who concurrently presented with higher levels of adaptive coping skills (Sales & Fivush, 2006). Supporting the findings related to structural elements of parent-child reminiscing being related to higher child emotional well-being, Fivush et al. (2009) found mothers who provided more elaborations and event evaluations during reminiscing about negative events, had pre-adolescent children (9-12 years) who concurrently showed higher levels of well-being and fewer internalising symptoms (including depression and anxiety).

Collectively, the research findings relating to parent-child reminiscing provide support for the importance of language and conversation in the development of a child's emotion competencies. Specifically, qualities of parent-child reminiscing about an emotion-laden event including, the emotion content (emotion talk, explanatory language including references to resolutions; causes and consequences), evaluative content (confirmations and negations), narrative structure (elaborations) and affective qualities (mother-child levels of emotional engagement and intersubjectivity) have been associated with a child's emotion competencies. Intervention studies also provide preliminary casual support for the predictive role of maternal elaborative styles in the development of a child's emotional understanding. Thus, the parent-child reminiscing context likely promotes a child's socioemotional development by not only teaching a child to reflect on their emotional experiences in a way that helps identify, understand, and express emotions, but provides a context for communicating adaptive coping strategies that can be applied when the child is confronted with negative emotional experiences. However, there are gaps in the literature that limit the generalisability of the findings.

First, the paucity of longitudinal studies means that the causal role of reminiscing qualities in child emotion development across time cannot be concluded. Second, the research highlights the importance of parent-based qualities (such as maternal elaborations, emotion talk and evaluations) as well as dyad-level qualities of parent-child reminiscing (e.g., parent-child emotional engagement) that are linked to child socioemotional outcomes. However, without measuring and controlling for both parent and child qualities in analyses, it is difficult to discern the independent effects of parents on child outcomes or the reciprocal effects of the parent and child reminiscing qualities on child outcomes. Finally, to our knowledge, no research has examined the relationship between parent-child reminiscing conversational qualities and internalising problems (such as depression, anxiety and rumination) beyond preadolescence. We know, however, from the broader emotion socialisation literature that the parent-adolescent relationship remains an important context associated with youth psychological adjustment.

What About Adolescence?

Despite the relationship between parent-adolescent reminiscing conversations and youth psychological adjustment being understudied, there is research to suggest that parent-adolescent reminiscing qualities play a role in maintaining youth psychopathology symptoms. In a recent longitudinal study (Hendrickson, Abel, Vernberg, McDonald, & Lochman, 2019), aspects of parent-adolescent (ages 12-17) reminiscing conversations about a past traumatic event was investigated in relation to an adolescent's enduring experience of post-traumatic stress symptoms (PTSS). The reminiscing conversations were coded for parent "egocentrism", defined as capturing the extent to which a caregiver focused on their own experiences (i.e., emotions, perceptions) of the event at the expense of the adolescent sharing their perspective of event details. Caregiver egocentrism was associated with the maintenance of youth PTSS symptoms reported 4 years after the event. Findings suggested that parents may play a role in PTSS by communicating maladaptive forms of coping during parent-adolescent reminiscing discussions. Note that in this study, the adolescent's reminiscing qualities and the caregiver's own PTSS were not assessed nor controlled for in analyses. Therefore, it is unclear how the caregiver's PTSS may be shaping their own reminiscing behaviours as well as their youth PTSS outcomes. Furthermore, by not measuring the adolescent qualities during reminiscing we are unable to account for other possible effects, such as whether the caregiver's reminiscing qualities are impacting youth PTSS independent of the adolescent's behaviours during reminiscing; or how adolescent contributions to the reminiscing discussion with their caregivers are related to their own outcomes. As we have proposed, capturing these mutual processes are

necessary to clarify how the interpersonal processes of parent-adolescent reminiscing conversations that are related to youth psychopathology outcomes.

From a methodological perspective, adolescent reminiscing conversations about past events with their parents is expected to be different from younger children due to a number of developmental changes. By adolescence, the foundations of reminiscing skills and emotion competencies have been acquired, thus adolescents require less direct scaffolding from their parents during interactions (Allen, Nelson, Cole, & Hollenstein, 2018). Understanding the expression and function of reminiscing qualities in the context of the parent-adolescent relationship is, therefore, an important developmental consideration. In a cross-sectional study investigating maternal reminiscing styles and aspects of adolescent identity development, McLean & Mansfield (2012) proposed differences between qualities of reminiscing conversations with adolescents compared to young children. Mothers and the youth (ages 11-18 years) were asked to discuss three personally meaningful past events. Transcripts of the conversation were coded for narrative qualities using an adapted coding scheme originally designed for use on reminiscing conversations between mothers and preschool children (Haden et al., 1997; and Bird & Reese, 2006). Specifically, the following maternal scaffolding behaviours were coded: maternal elaborations, defined as questions that added new information to the conversation; maternal reiterations, a code that captured closed questions or statements that either repeated what had just been said or only required a “yes” or “no” answer; maternal evaluations in the form of confirmations (comments that signaled agreement with what the other person had said) or negations (comments that signaled disagreement with what the other person had said). In their adaption of the coding scheme, the researchers commented on functional differences between reminiscing conversations had between parents and their young children, and parents and their adolescent. For example, maternal repetitions were changed to “reiterations” with the rationale that repeating statements or closed-questions used in parent-adolescent reminiscing were observed to not reflect agreement or confirmation like repetitions do during reminiscing with younger children (McLean & Mansfield, 2012). The authors suggested that the functional differences in reminiscing qualities likely reflect changes in parent-adolescent relationship dynamics during adolescence.

Thus, parent-adolescent reminiscing may have a greater emphasis on negotiation as parents and adolescents balance the adolescent’s growing need for autonomy and their more developed narrative competencies (Morris, Cui, Criss & Simmon, 2018; Steinberg & Morris, 2001). Therefore, capturing structural and content dimensions of reminiscing (i.e., elaborations and evaluations), in the context of transactional processes, such as responsivity and mutual

influence, may be even more important in the context of the parent-adolescent relationship, relative to conversations between parents and young children. Currently no coding scheme codes parent-adolescent reminiscing by simultaneously capturing interpersonal, structural, and content dimensions of reminiscing conversations.

To summarise, reminiscing conversations are suggested to teach children not only how to reflect on past events but have considerable benefits for various developmental outcomes (Fivush, 2011). Specifically, the structural (i.e., elaborations) and emotional qualities of parent-child reminiscing conversations are linked to a host of adaptive child outcomes, including a child's emotion management and mental health (Laible, 2011; Salmon & Reese, 2015, 2016). Less research has focused on the role of parent-child reminiscing and its relationship to internalising problems beyond pre-adolescence. Yet parent-adolescent interactions remain an important emotion socialisation context related to youth psychological adjustment (Miller-Slough & Dunsmore, 2016; Morris et al., 2007). Given adolescent development is characterised by changes to parent-adolescent relationship dynamics (Blakemore & Mills, 2014), we propose that a more nuanced and contextualised approach to studying parent-adolescent reminiscing may be required to capture the transactional patterns of effects between parents and youth. One way to study reminiscing qualities and the contextual processes that shape them is to adopt an interpersonal approach to our methodology.

Interpersonal Methods for Studying Parent-Adolescent Reminiscing Conversations

Interpersonal methods are consistent with the basic assumptions of reminiscing being an inherently transactional process. That is, it occurs in the context of social interaction. However current methods of studying reminiscing conversations do not explicitly test and account for interpersonal processes in their methods of coding and analyses. Methods used to study parent-child reminiscing have tended to focus on describing the role of parental reminiscing style or qualities on child developmental outcomes including memory development, language acquisition, identity formation, and psychological adjustment (Fivush, 2007). One drawback of applying individual methods on interpersonal data is that they do not explicitly capture the dyadic or transactional processes that are operating during reminiscing discussions (for example how the child is affecting the mother in the conversation). Moreover, person-centered methods tend to narrow a researcher's focus to understanding the role of individual level factors (i.e., maternal reminiscing qualities) on child outcomes, rather than simultaneously accounting for the equally important mutual effects of the child and the context of the dyad on the child's outcome.

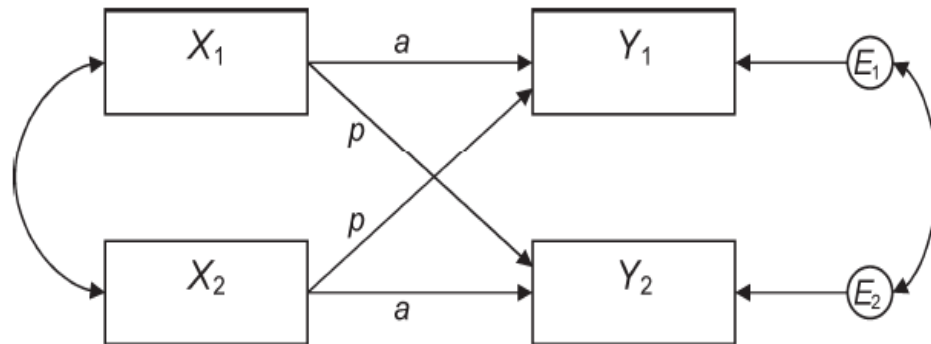
From a theoretical perspective, the practice of parent-child reminiscing is theoretically described as being a dyadic process. A child's conversational qualities and contributions to the discussion are understood to equally shape the discussion and thus, the child's outcomes (Fivush et al., 2006; Nelson & Fivush, 2004). We see evidence of the bidirectional nature of reminiscing processes in seminal research investigating parent-child reminiscing and a child's narrative skills over time. For example, in a longitudinal study (Reese et al., 1993) transcripts of mother-child reminiscing conversations about a shared past event were coded for mother and child reminiscing qualities, respectively. Cross-lagged correlational analyses over four time points, when children were 40, 46, 58 and 70 months, showed that while conversations were initially directed by mothers, as children grew older the relationship between maternal elaborativeness and child responding became more bidirectional. That is, as children grew older and were able to participate to a greater extent in reminiscing conversations, they started to elicit more elaborative styles of reminiscing from the parent and vice versa. Similarly, bidirectional patterns of influence were also found in a different longitudinal study involving younger children followed over four timepoints: 19, 25, 32 and 40 months (Farrant & Reese, 2000). Cross-lagged correlational analyses illustrated that maternal elaborations and child participation in reminiscing conversations were bi-directionally related at 25 and 30 months. These studies illustrated the bidirectional nature of parent and child reminiscing qualities on child outcomes over time. From a statistical perspective, however, the correlational nature of the cross-lagged analyses did not allow the researchers to control for the shared variance (dependency) between the mother and child when examining the relationships between parent and child memory outcomes. Therefore, it was unclear how the parent and child were affecting their own and each other's outcome, after controlling for the dependency they shared. The discrepancy between theory that describe interpersonal processes of parent-child reminiscing and the subsequent measurement of reminiscing being largely focused on the individual, is a methodological gap in the literature that has yet to be addressed. As we discuss below, adopting dyadic methods to studying parent-adolescent reminiscing would be one way to help account for the interrelated/dependent nature of reminiscing conversations.

Dyadic methods are concerned with the measurement of interdependence between the two members of the dyad. Interdependence refers to the non-independence of the dataset; that is, the overlapping and interrelated nature of the dyad members which means that their outcomes share a level of similarity that is unique to that dyad (Ackerman, Donnellan, Kashy, & Conger, 2012; Kenny, 1996; Kenny, Kashy, & Cook, 2006). To capture the interdependence of interpersonal (non-independent) data three sources of variance should be accounted for:

individual, partner, and relational processes (Cook & Dreyer, 1984). To achieve this, dyadic methods treat the dyad (i.e., the parent-adolescent pair), rather than the individual (i.e., mother and adolescent), as the unit of analysis (Cook & Kenny, 2005). Traditionally, capturing the interdependence of dyadic data involved collapsing individual observations from each member of the dyad into a total, which represented the “dyad-level” score on a given variable. Taking such an approach, however, is conceptually incorrect (Cook & Kenny, 2005; Kenny et al., 2006). For example, take the concept of parent-child emotional engagement during parent-adolescent conversations. This quality is typically coded as a dyad-level variable: by combining the individual observations of parent and adolescent engagement into an overall dyad score (e.g., Laible, 20011; Laible & Song, 2006). Such an approach risks conflating a dyad that is made up of a highly engaged parent and low engaged adolescent with a parent and adolescent dyad who present with medium levels of engagement. By collapsing the behaviours of two individuals into a single dyad measure, the two dyads would present with the same levels of engagement. From a conceptual perspective, however, it could be argued that the differences in levels of engagement within the dyad are capturing key differences in the functions of that quality during reminiscing and are likely associated with different outcomes (see Cook & Kenny, 2005; Kenny et al., 2006).

In response to the conceptual limitations associated through the creation of dyad-level variables, the Actor-Partner Interdependence Model (APIM) was presented as an alternative method to account for interdependence when analysing dyadic datasets (see Figure 1.1) (Cook & Kenny, 2005). Conceptually, the APIM treats the data from the two individuals’ in the pair as separate but also nested in the dyad (Kenny et al., 2006). As illustrated in Figure 1.1, the APIM can model individual-level effects on a person’s outcomes (e.g., how the adolescent’s level of engagement during reminiscing effects their own outcome) as well as illustrate how the partner is affecting the individual’s outcome (e.g., how the parent’s engagement is effecting the adolescent’s outcome), while simultaneously controlling for the interdependence between the dyad members (Kenny et al., 2006). In the APIM, the individual’s effects on their own outcome are referred to as “actor effects”, while the effects of the partner on the individual are labelled “partner effects”. Thus, the APIM accounts for the all the possible ways that parents and youth may be affecting each other because of their interdependence. Ignoring either the actor or partner paths when studying interpersonal data, would risk overestimating an effect (Kenny et al., 2006).

Figure 1.1. Actor-Partner Interdependence Model (APIM). Original figure taken from *Dyadic Data Analysis* (Kenny, Kashy, & Cook, 2006, p. 145).



The model displays an example of the APIM involving two people and two variables. X_1 = the independent variable of person one. X_2 = the independent variable of person two. Y_1 = the outcome variable for person one. Y_2 = the outcome variable for person two. Paths labelled “a” represent actor effects. Paths labelled “p” represent partner effects.

Why Use Dyadic Methods?

Dyadic methods measure to what extent an individual’s characteristics (e.g., the adolescent) are influencing their own outcomes, while simultaneously capturing the extent to which the partner (e.g., the parent) and the relational qualities of the interaction, are affecting the individual’s outcome (e.g., youth psychological adjustment) (Cook & Kenny, 2005). By doing so, dyadic approaches can model, test and describe the reciprocal nature of relationships between dyad members (Kenny et al., 2006). What is currently missing from existing methods of studying reminiscing discussions is the acknowledgement of interdependence in the way researchers measure and analyse the conversations. Modelling interdependence in this way, is more consistent with theories of development, such as the Social Cultural Developmental Theory (Nelson & Fivush, 2004), that speak to transactional processes and mutual influences of parents and their children during reminiscing and on child outcomes.

The advantages of interpersonal methods can be seen in other fields of developmental studies, which have adopted dyadic approaches to researching interactions between parents and their children. Developmental theories of socialisation have emphasised not only the role that parent’s play during parent-child interactions that influence a child’s outcomes, but also the influence that the child has on a parent during these interactions (Baumrind, 1980; Bell, 1968; Maccoby, 1992). Research on parenting and communication styles (Kochanska, 1997; Dailey, 2008; Lenne et al., 2019), attachment (Kenny & Kashy, 2005) and emotion regulation (Crowell

et al., 2017; McKillop & Connell, 2018) have benefited from applying dyadic methods to capture interpersonal dynamics of the interaction. This has led to findings that have bridged that gap between theories of development that describe transactional processes, and methods that adequately test those processes.

Finally, there are conceptual and statistical limitations for not applying interpersonal methods to studying interpersonal data. In addition to the individual-level effects currently examined in reminiscing research (i.e., maternal reminiscing qualities), dyadic methods provide researchers with the means to accurately study interpersonal-related questions (e.g., bidirectional processes) (Gonzalez & Griffin, 2012). Theoretically, applying dyadic methods overcomes the risk of researchers oversimplifying reminiscing qualities and their relationships to developmental outcomes, when a bidirectional or mutual effect may also be true (Kenny et al., 2006). From a statistical perspective, not accounting for the interdependence of the parent-adolescent relationship, can introduce biases into analyses (Gonzalez & Griffin, 2012). For example, standard analyses (e.g., linear analyses) have assumptions of independence. In interpersonal datasets, the interdependence shared between dyad members violates these assumptions (Cook, 2012). Thus, by controlling for the interdependence shared between the parent and child, researchers are less likely to introduce biases into analyses by recognizing that the observed qualities of the conversations are interdependent (Kenny et al., 2006). For this reason, the APIM framework for dyadic analysis was adopted in the current research.

The Current Research

In summary, the reminiscing literature has consistently shown how certain language-based qualities of mother-child reminiscing conversations about past negative events, are related to better coping skills and psychological functioning in children. These findings have been supported across childhood, from preschoolers to preadolescent children. However, the effects of reminiscing conversations between mothers and their adolescent children, on adolescent internalising problems, has not yet been examined. From the theoretical perspective that has been outlined above and guided by findings in the broader adolescent emotion socialisation field, this thesis aims to address the following gaps in the existing reminiscing literature:

Adolescence. First, no research has investigated the relationship between parent-adolescent reminiscing conversations and internalising problems beyond preadolescence, despite the rapid and variable developmental change that is occurring across adolescent period (Dahl et al., 2018). The current research therefore examined how emotions are managed during reminiscing conversations about a past conflict event between mothers and adolescents, and

how qualities of these conversations are related to adolescent rumination and internalising symptoms.

Longitudinal. Second, the research examining reminiscing conversations and a young person's internalising symptoms has been cross-sectional, leaving the direction of relationships between unclear. This lack of clarity about directionality limits our understanding on how these conversational qualities operate to potentially place an adolescent at risk of developing psychological problems. To deal with this issue, this research adopted a longitudinal design, that aimed to draw conclusions regarding the nature of relationships between mother-adolescent reminiscing qualities, adolescent rumination, depression, and anxiety over time.

Dyadic. Finally, from a methodological perspective, current approaches to coding and analysing the conversations in reminiscing studies have not explicitly captured the transactional nature of the reminiscing discussions by focusing on the level of the individual. With changes in developmental demands during adolescence, such as an adolescent's growing need for autonomy contributing to changes in the parent-adolescent relationship, the way in which adolescents engage in reminiscing discussions may be different to pre-adolescent contexts. Therefore, in this research, a dyadic approach to coding and analysis, that was sensitive to capturing interpersonal processes between mothers and adolescents, was applied. A strength of taking a dyadic approach was that we could look at how the mother and adolescent influence each other, while accounting for their interdependence. This is a novel type of analysis for this field of research but is both developmentally relevant, given the age and stage of development of the participants in the current study, and conceptually, it is consistent with the Social Cultural Developmental Theory that describe transactional processes involved in reminiscing. Moreover, applying dyadic methods to studying parent-adolescent reminiscing conversations provided a rich analysis of the processes occurring between parent-adolescent reminiscing conversations and adolescent outcomes.

Overview of Studies

The overall aim of this thesis was to address the limitations of the reminiscing literature identified above by investigating the relationship between parent-adolescent reminiscing and youth rumination, anxiety and depression, cross-sectionally and longitudinally. The relationships were studied using dyadic methods of coding and analysis. A conceptual model (Figure 1.2) is offered as a way to graphically illustrate the overarching research aims.

Study 1: Assessing the Validity of a Dyadic Coding Scheme for use on Parent-Adolescent Reminiscing Discussions

The aim for Study 1 was to lay the conceptual and methodological foundations for testing the cross-sectional and longitudinal relationships between parent-adolescent reminiscing qualities and youth psychopathology in a dyadic way. To code the conversations dyadically, we needed to ensure that the dyadic coding scheme captured the fundamental components of reminiscing (i.e., narrative structure and content) in the context of interpersonal processes that shape the expression and function of parent and adolescent reminiscing qualities. Therefore, the aim of Study 1 was to establish the convergent and discriminant validity of a dyadic coding scheme compared to an established reminiscing coding scheme.

In the current research, parents and adolescents were asked to discuss a past shared conflict event. A shared conflict was chosen for two reasons. First, prior research has shown that negative events elicit greater emotion talk and more elaborative discussion between mothers and their children compared to positive events (Sales et al., 2003). Second, given the age of participants in the current study, it was important to select an event that captured the shift in dynamics within the parent-adolescent relationship; whereby adolescents develop a greater sense of autonomy which is reflected in their increasing contribution to conversations with their parents and conversely, a parent's increasing recognition and facilitation of their child's growing emotional competency.

Study 2: The Cross-Sectional and Longitudinal Relationships Between Parent-Adolescent Reminiscing Qualities, Youth Rumination, and Internalising Symptoms.

The overall aim of Study 2 was to extend the reminiscing field by investigating the relationship between adolescent rumination and internalising symptoms, and qualities of mother and adolescent conversations about past events. We took a two-fold approach to examining the relationships.

First, Study 2a aimed to address the cross-sectional questions of the proposed research. First, this was achieved by coding mother-adolescent reminiscing conversations dyadically, specifically exploring the way in which the dyads discussed and managed emotions during discussions of past events. Second, the relationship between the mother-adolescent conversational qualities and levels of adolescent rumination and internalising symptoms were examined. Study 2a sought to answer the following research questions: how do parents and adolescent manage emotions during a past conflict event? How do adolescent and maternal reminiscing qualities relate to adolescent and maternal levels of rumination, anxiety, and depression?

Second, guided by the cross-sectional findings of Study 2a, Study 2b investigated the relationships between mother-adolescent reminiscing qualities and youth rumination and internalising symptoms, over time. Specifically, Study 2b focused on examining whether qualities of the parent-adolescent conversations accounted for residual change in adolescent rumination and internalising symptoms prospectively. Study 2b aimed to address the following research questions: Do reminiscing conversational qualities predict rumination and internalising symptoms longitudinally? If so, what is the nature of the associations?

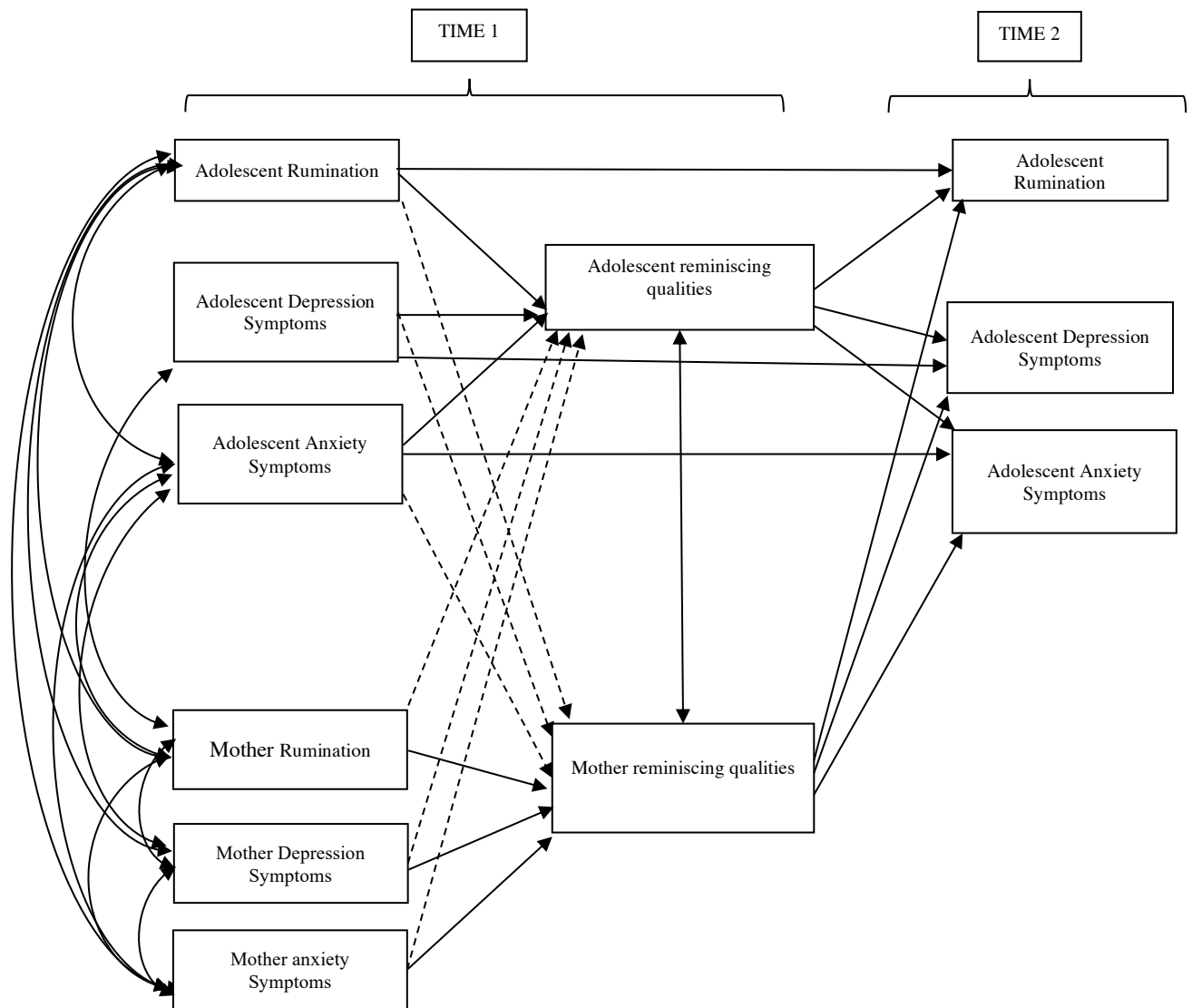


Figure 1.2. Conceptual model representing cross-sectional and longitudinal relationships between adolescent and mother reminiscing qualities and youth internalising problems. The bi-directional arrows represent the covariance between variables. The dashed lines are cross-paths that indicate partner effects.

Chapter 2

Study 1: Assessing the Validity of a Dyadic Coding Scheme for use on Parent-Adolescent Reminiscing Discussions.

Abstract

The current study aimed to test the convergent and discriminant validity of a proposed dyadic coding scheme for studying parent-adolescent conversations about past events. To date, the conversational qualities (i.e., content and structure) of parent-child reminiscing have been measured using behavioural coding methods that are largely individual-oriented. Yet, reminiscing is an inherently dyadic or interdependent practice; meaning that the contributions from one individual are not independent from the other person. Accounting for interpersonal processes (e.g., mutual support, responsivity) during *parent-adolescent* conversations may be particularly important given adolescents are contributing to the co-construction of the narrative to a greater extent compared to younger children. To our knowledge there is not a coding scheme that simultaneously captures parent-adolescent reminiscing qualities in the context of the interpersonal processes that shape them. To demonstrate the added value that dyadic methods bring to understanding parent-adolescent reminiscing conversations, we examined the convergent and discriminant validity of a dyadic coding scheme compared to a traditional reminiscing coding scheme. Overall, we predicted that the coding schemes would share overlap in the constructs they measure, but present differences in how the reminiscing qualities are expressed once accounting for dyadic processes. The correlational findings supported our hypotheses. We found that reminiscing qualities that served to extend the conversation and promoted highly detailed narratives were positively correlated to interpersonal processes that endorsed co-construction and collaboration. In contrast, reminiscing qualities that discontinue the conversation were in the service of interpersonal processes that promoted avoidance/disengagement and repetitive problem engagement. From a conceptual and statistical perspective, this study highlights the importance of considering interpersonal processes when studying parent-adolescent reminiscing. By doing so, research on reminiscing is in a better position to examine the transactional nature of reminiscing qualities and their influence during adolescence.

Introduction

Conversations between parents and children about past experiences play a crucial role in development across childhood and beyond. Robust findings show that children's engagement in reminiscing conversations with their caregivers improves their autobiographical memory and narrative skill, their ability to understand and manage their emotions, and other skills that lay the foundations for psychological wellbeing (Fivush, Haden, & Reese, 2006; Hendrickson, Abel, Vernberg, McDonald, & Lochman, 2019; Salmon & Reese, 2016).

Yet we still have much to learn about the processes through which parent-child discussions exert their influence. Existing research has tended to focus on the individual contributions of the conversational participants separately (coding, for example, certain kinds of utterances by the caregiver). Individual-focused coding schemes are typically not designed to fully capture the *interpersonal* essence of conversations, yet conversations are marked by fundamental *interdependence*—the emotions, behaviors, and goals of one person are inherently dependent on the emotions, behaviors and goals of another person (e.g., Cook & Kenny, 2005). This interdependence may be particularly relevant in conversations between parents and adolescents, whose striving for autonomy and more mature emotional and cognitive skill enables much more active engagement in the discussion relative to young children (Blakemore & Mills, 2014; Dahl, Allen, Wilbrecht, & Suleiman, 2018). To date, however, no approach to understanding these conversations and associated coding scheme has fully accounted for the dyadic component or interdependence of reminiscing conversation, despite the prevalence of such approaches in research investigating the qualities of interpersonal relationships (for example, adult intimate relationships (e.g., Friesen, Fletcher & Overall, 2005).

In the current research, we propose a dyadic scheme that captures the interpersonal dynamics of parent-adolescent reminiscing. We test the convergent and discriminate validity of this dyadic coding scheme in comparison to a traditional reminiscing coding scheme (McLean & Mansfield, 2012; also see Low, Overall, Cross, & Henderson, 2018 for an example of this type of comparison). The proposed coding scheme is designed to offer an enriched and contextualised approach for studying reminiscing qualities within the context of the parent-adolescent relationship.

Parent-Child Reminiscing Conversations

According to Social Cultural Developmental Theory (Nelson & Fivush, 2004), by providing structure and support for a child's conversational contributions, parents and other caregivers engage children in learning the narrative and emotion skills that they require to recall detailed and coherent memories on their own (Fivush et al., 2006). Parents differ in the extent

to which they support and expand on their child's conversational contributions and discuss emotions. Some parents are highly elaborative, supporting their child's contributions through elaborative statements that pick up and expand on the child's utterance (for example, by means of comments, questions, and reflection of event details) (Manczak, McLean, McAdams, & Chen, 2015). Moreover, elaborative parents tend to be more evaluative during reminiscing, inviting the child's participation through confirming the child's contributions. At the opposite end of a continuum, other parents are much less elaborative, tending to repeat their own questions, asking more closed-questions and statements; as well as negating the child's statements (Manczak et al., 2015). Some parents also discuss the nature, causes and consequences of emotions, offering resolutions, whereas others are less likely to do so (Salmon & Reese, 2016). In the long term, these differences in parental reminiscing style and emotional content are reflected in children and adolescents' memory and emotion skills (Fivush et al 2006; Manczak et al., 2015; Salmon & Reese, 2016; Wareham & Salmon, 2006). Thus, elaborative and emotion-rich reminiscing has been associated with a host of adaptive developmental outcomes both concurrently and across time, including language acquisition, emotion recognition and management, as well as autobiographical memory development and psychological functioning (e.g., Salmon & Reese, 2015).

A key feature of reminiscing qualities is *dyadic* responsiveness: Parents are co-constructing conversations *with* children by engaging their child's perspective in the retelling of the event. This is consistent with theoretical descriptions of parent-child reminiscing as an inherently transactional practice (Nelson & Fivush, 2004). As we discuss next, however, no current methods fully capture the way that parent-child communication behaviors are interdependently entwined.

Current Methods of Studying Parent-Child Reminiscing Qualities

Reminiscing style and content are typically assessed by asking a parent and child dyad to discuss a specific event they have experienced together (e.g., Fivush & Sales, 2006). The recorded conversations are transcribed verbatim, and parent and child's transcripts are most commonly coded separately for structural components (e.g., elaborations, statements, repetitions) and content (e.g., emotion talk, evaluations, confirmations, negations, problem solving, and resolutions) (Fivush, Berlin, Sales, Mennuti-Washburn & Cassidy, 2003), with each code regarded as mutually exclusive.

Across studies, reminiscing qualities have been measured using global/dimensional coding (that is, making an overall judgment on a rating scale on the degree to which a quality is present (e.g., Laible, Murphy & Augustine, 2013) and/or exhaustive coding of utterances or

conversational turns (e.g., a count of the number of each of the particular kinds of structural or content utterances; Fivush & Sales, 2006; see Leyva et al., 2019 for review). Correlational analyses may then assess the extent to which particular parent and child codes are related to one another (Sales & Fivush, 2005). For instance, Reese, Haden, and Fivush (1993) coded for parent and child structural qualities (i.e., elaborations, evaluations) of reminiscing independently. The researchers then correlated mother and child qualities to examine the extent to which they were related to each other. Other studies code for parent and child reminiscing qualities with subsequent analyses typically focusing on contributions from one person or a collapsed (summed) measure of the parent and child (Laible & Song, 2006; Gini, Oppenheim & Sagi-Schwartz, 2007) in relation to the outcome of interest. For example, in research with younger children, the association between *parental* reminiscing behaviours such as elaborations or evaluations and the child's outcomes may be assessed (Fivush, Marin, McWilliams, & Bohanek, 2009). Alternatively, mother and child codes are summed into a single parent-child variable (Laible, 2011). One major limitation to these approaches is that they all preclude researchers from examining dyadic processes such as *how* the mother and child are affecting one another and the nature of that effect.

In summary, current person-oriented approaches to coding allow researchers to examine the respective contributions of individuals during reminiscing discussions but these approaches do not take advantage of the dyadic quality that is fundamental to the shaping of reminiscing conversational qualities.

The Importance of Reminiscing in Adolescence

In adolescence the nature of the parent-child relationship changes as the young person strives for greater autonomy while balancing needs for interpersonal closeness (Steinberg & Morris, 2001). Most adolescents have acquired the necessary language and narrative abilities to reflect on and draw meaning from past events (Miller-Slough & Dunsmore, 2016). The challenge for parents during reminiscing with their young person is to accommodate the adolescent's growing need for a more autonomous point of view through engaging on strategies that encourage co-construction and mutual influence of the narrative (McLean & Mansfield, 2012). It becomes even more important, therefore, to adopt a dyadic approach when investigating reminiscing *between* parents and adolescents (Morris, Cui, Criss, & Simmons, 2018).

McLean and Mansfield (2012) acknowledged the potential differences in the functions of particular reminiscing qualities when the conversational participants are parents and adolescents in their adaptation of a maternal reminiscing coding scheme originally developed

for parent-child conversations with pre-schoolers (see Haden, Haine, & Fivush, 1997). For example, the category of *repetitions* was renamed *reiterations* to capture the potential differences in the function of repeating/closed statements in parent-adolescent conversations. Whereas parent's repetitions of young children's speech and parents' use of closed statements indicate a low elaborative reminiscing style, the same behaviours with adolescents may serve to maintain the conversation or signal when the listener thinks that the story has been elaborated on sufficiently (McLean & Mansfield, 2012). Yet even with its developmentally-informed adaption of *maternal* reminiscing behaviours, this coding scheme does not take account of the transactional nature of reminiscing between parents and adolescents. Accordingly, we propose that to capture the interpersonal quality of conversation between parents and adolescents, it is necessary to study reminiscing as a dyadic process.

Studying Parent and Adolescent Reminiscing Qualities from a Dyadic Perspective

Dyadic methodology has a long-standing history in the field of adult intimate relationships. Research into the dynamics of intimate relationships have benefited from dyadic methods to highlight the role of interpersonal (versus intrapersonal) processes involved in the presentation and function of psychological phenomena (Ackerman, Donnellan, Kashy, & Conger, 2012; also see Crowell et al., 2014; Crowell et al., 2017; McKillop & Connell, 2018 for research on child and family psychology that utilise dyadic methods of analyses).

At the core of dyadic methods is the notion that if two members in the dyad are related in some way their outcomes are not independent (Cook & Kenny, 2005; Kenny, 1996; Kenny, Kashy, & Cook, 2006). To capture the interdependence in parent and adolescent dyads, researchers must recognise that there are three important factors during reminiscing conversations: parent factors, child factors and a third factor which captures the interaction between the two individuals in the dyad (Cook & Kenny, 2005; Kenny et al., 2006). In research investigating interpersonal relationships, the third factor is commonly referred to as the *relational effect* (Gonzalez & Griffin, 2012). Dyadic coding schemes adopt a format that integrates the relational component of the discussion into the codes by coding for both parent and adolescent on the same set of variables in a way that considers each code in the context of the interaction (i.e., how each person elicits responses from the other person). For example, below is an excerpt of a narrative collected in the current study. The conversation is between a mother and son reminiscing about a past conflict event. "P" denotes the parent, and "C" the adolescent.

P: So I tried to phone you again on both home phone and, and cell phone, getting no answer but - despite the fact that you've just phoned me. So now I'm confused and irritated. So I phone

M's house. B goes to see if you are in fact there...So now I'm wondering why I'm being ignored altogether. Send a message with, with M. So by the time you get in the car and I now ask you why you're not answering anything you decided to have a hissy fit.

C: I did not have a hissy.

P: And not give an explanation.

C: I did give an explanation. I said that the home phone wasn't working and my cell phone was on 'Do Not Disturb'. That's exactly what I said and you weren't happy with my explanation despite the fact it was the only explanation.

P: Because it was illogical. How can you just phone somebody on your cell phone then not answer your cell phone?

C: Because it was on 'Do Not Disturb'. It's designed not to ring.

P: Again, illogical when you're expecting a phone call.

C: But I didn't know it was on 'Do Not Disturb'. It's - there's no notification. It just goes on 'Do Not Disturb'.

P: Which is silly. That's what I couldn't handle...

C: Okay.

P: ...that it was silly.

C: Next.

Using an established coding schedule (e.g., Mansfield & McLean, 2012), the parent and adolescent's contributions would be coded for a set of specific reminiscing qualities at the utterance level resulting in a count of observed instances of the quality for each individual. Taking the quality elaborations as an example; in the excerpt provided, the parent and adolescent would both be coded as demonstrating elaborative qualities: each person adds new event details to the partner's prior statements. In contrast, a dyadic coding perspective would consider each person's contributions in the context of the partner's responding. Applied to the example, both the parent's and adolescent's communication would be coded as highly elaborative (as in other schemes), but in addition, coders would consider how the parent and adolescent are adding detail in *response* to the other; each person is reiterating the same issue but emphasizing their own perspective in the story. In this way, the dyadic coding scheme is capturing the interdependent nature of reminiscing qualities by assessing how each person is *eliciting* detail from the other via escalation of a focus on their own experience. This, in turn, reflects how the parent and adolescent are not only contributing to the narrative *but are also* shaping how the other person is contributing. This example illustrates how a quality such as

elaborations may serve a different meaning depending on whether it is coded as a product of the parent, child or a combination of both, in the context of the interaction.

Adopting a dyadic approach to coding has statistical and analytic advantages, which can help prevent researchers from drawing premature conclusions about the direction of effects (Gonzalez & Griffin, 2012; Kenny et al., 2006). One of the key differences of dyadic (interpersonal) compared to intrapersonal methods is the way that dependency between members of the dyad is managed statistically. That is, using dyadic methods allows researchers to examine the reciprocal nature of conversational qualities by studying potential parental effects, child effects and relational effects simultaneously while accounting for the dependency that is associated with interdependent data (Cook & Dreyer, 1984). Further, dyadic approaches to modelling and analyses have the advantage of indicating not only if the parent and child are influencing each other, but the nature of that influence (Cook & Kenny, 2005). Using dyadic methods helps to prevent researchers from prematurely concluding unilateral associations (for example, assuming that one person influences the other) when a bidirectional or mutual effect may also be true (Kenny et al., 2006).

The Dyadic Coding Scheme

The dyadic coding scheme that will be applied in current study is theoretically grounded in research investigating adult interpersonal relationships. Specifically, the constructs measured in the scheme were designed to reflect a continuum of support-seeking and emotion management strategies exhibited between two people during a conflict discussion (Low et al., 2018). The dyadic scheme focuses on three strategies: avoidance/disengagement, repetitive problem engagement, and collaborative engagement. Each strategy is in turn made up of a set of interrelated behaviours that capture differing levels of engagement in the discussion, problem-solving, and emotion expression (Low et al., 2018).

The dyadic scheme differs from the scheme employed by McLean and Mansfield (2012), with the latter primarily concerned with capturing reminiscing qualities, including maternal scaffolding behaviours (i.e., elaborations, reiterations, confirmations, and negations) and adolescent narrative processes (i.e., emotion expression and resolution seeking) related to youth memory and identity development. The dyadic coding scheme extends McLean and Mansfield's work by coding mothers and adolescents on the same set of narrative qualities to better capture transactional processes such as co-construction of the conversation. By accounting for the patterns of behaviors across both dyad members, we can simultaneously capture how the structural and content qualities of reminiscing (i.e., elaborations, emotion

expression) are managed in the discussions, as well as, more broadly, studying the interpersonal dynamics that are shaping the conversational qualities.

Current Study

In the current study, we tested the convergent and discriminant validity of reminiscing qualities measured through a dyadic coding scheme, with a traditional coding scheme of reminiscing in mother-adolescent conversations (*Adapted Coding Listener Responses: PPC*; McLean & Mansfield, 2012). Both coding schemes were applied to 67 mother-adolescent reminiscing conversations about a past shared conflict event. We expected that the dyadic coding scheme would capture the key markers of adaptive emotion management that are assessed through established reminiscing coding schemes. These markers include structural components of the conversation: “scaffolding” communication (i.e., elaborations, repetitions, confirmations, negations); and narrative content: “emotion expression” (i.e., reference to emotion states [e.g., sad] or behavior [e.g., crying]); and problem-solving communication (i.e., attempts to reduce the negative strength of the event by offering a resolution such as drawing a positive meaning (e.g., “it all turned out ok”).

We hypothesised, that traditional reminiscing qualities would be captured differently depending on the interpersonal processes between the mother and adolescent. First, strategies related to avoidance/disengagement (strategy A) were predicted to be positively related to maternal and adolescent negations, but negatively associated with elaborations, confirmations, reiterations, emotion expression and problem solving/resolution seeking reminiscing behaviours. The rationale for this hypothesis being that reminiscing qualities that promote discontinuation of the conversation would be positively related to interpersonal behaviours that promote avoidance and disengagement and negatively associated with measures of collaborative and highly-detailed reminiscing practices. Further, we expected that strategies characterised by repetitive problem-engagement (strategy B) would be positively related to maternal and adolescent reminiscing qualities associated with detailed narratives (elaborations, emotion expression) but also qualities characteristic of less collaborative conversations (negations) and negatively associated with reminiscing qualities that promote memory co-construction and adaptive problem-solving (confirmations, reiterations, and resolution seeking). Finally, we predicted that collaborative strategies (strategy C) would be positively associated with maternal and adolescent reminiscing qualities characteristic of highly detailed and constructive narratives including elaborations, reiterations, confirmations, emotion expression and problem solving (including resolution seeking); and negatively associated with qualities that capture disengagement from the conversation (negations).

Thus, we predicted that elaborations, for example, would be positively associated with strategies of repetitive problem engagement (strategy B) and collaborative engagement (strategy C), respectively. The reason is that both strategies reflect elaborative qualities (i.e., involve highly detailed responses which include the discussion of causes and consequences of the event, emotion expression). The strategies are also distinct in the way they capture the nature of elaborative detail, however; one strategy highlights elaborations used in the service of a self-focused orientation to event details, including invalidation of the other person's perspective (strategy B), while the other captures elaborations used in the context of problem-solving and co-construction of the narrative (strategy C). This example illustrates the additional nuance that a dyadic approach can bring in clarifying the different functions and presentation of reminiscing qualities depending on interpersonal processes within the conversation.

Method

Participants

Participants were drawn from a longitudinal research project investigating the relationship between memory and the development of youth psychopathology (Gutenbrunner, Salmon, & Jose, 2018, 2019). We engaged a sub-group of adolescents and their mothers based on adolescent age, inviting youth 13-16 years and their maternal parent to participate. The final sample consisted of 68 mother-adolescent dyads ($N = 136$). The adolescents (58.8% female) were aged 13 to 16 years ($M = 15.30$ years, $SD = 0.62$) and predominantly identified as European New Zealand/ Pākehā (88.2%), 5.9% Asian, 2.9% Māori, 1.5% Pacific People, and 1.5% as other. Mothers were 34 to 58 years of age ($M = 46.19$ years, $SD = 4.72$), and 86.8% of the sample identified as European New Zealand/Pākehā, 7.4% Asian, 2.9% Pacific People, 1.5% Māori and 1.5% Middle East/Latin American/African. The families were of medium to high socioeconomic status, reflected in New Zealand school decile rankings ranging between 6 to 10 ($M = 8.2$, $SD = 1.38$). Data from 67 mother-adolescent dyads were used as one dyad's conversation was inaudible.

Procedure

We conducted structured interviews with mother-adolescent dyads to obtain narratives about a past conflict event that they had experienced together. Following Fivush and Sales (2006), two trained female research assistants visited participants in their homes and conducted the interviews in a quiet room within the house. Participants provided consent at time of data collection and were told the purpose of the research was to understand how mothers and young people remember and talk about events in their life. Dyads were asked to select a past conflict event they had shared and, once they had agreed on an event, they were asked to talk about it

as if it had been brought up in conversation and they were remembering together. Research assistants remained in the room but silent until the participants indicated they were finished. Participants were then thanked, debriefed and given a fifty-dollar store voucher.

Measures

Coding procedure. All conversations were transcribed, de-identified and checked for accuracy. The transcribed conversations were coded by a primary coder and reliability checked by a secondary coder who was trained in the coding scheme, and unaware of the study hypotheses as well as the age and gender of participants. Reliability was obtained through the two coders independently coding 25% of the sample (17 conversations), resolving disagreements when they occurred. Intraclass Correlation (ICC) estimates were calculated for reliability and are reported below with the descriptions of the codes. ICC estimates were aggregated across parents and adolescents to provide a single, average reliability score for each code. As reported below, good to excellent levels of reliability were achieved (Cicchetti, 1994; Syed & Nelson, 2015).

Dyadic coding scheme. Both mothers and adolescents' contributions were coded for patterns of supportive and unsupportive emotion management using a version of the Coding for Conflict Interactions coding scheme adapted for parent-child interactions (see Low et al., 2018) (see Appendix A for the full dyadic coding schedule). Following Low et al. (2018), the conversations were coded along three strategies of emotion management (A, B, C) which were each also assessed along three sub-strategies relating to (1) engagement in the discussion, (2) approach to problem solving, and (3) expression of emotion. Global strategies of emotion management and each of the nine sub-strategies were rated independently on 7-point scales (1-2 = *low*, 3-5 = *moderate*, 6-7 = *high*) with consideration given to the intensity, frequency and duration of conversational qualities. Each person in the dyad (mother and adolescent) was coded separately (counterbalanced). Refer to Table 2.1 for descriptions of the codes.

Table 2.1. *Descriptions of the Observational Codes used in the Dyadic Coding Scheme.*

Global Strategy	Description	Strategy Sub-Strategies	Examples
<i>Strategy A</i>	An overall lack of engagement with the partner and discussion of event, a dismissive and passive approach to problem-solving, and suppression of emotional elements of the discussion (ICC = .92).	Avoidance/disengagement: lack of involvement, dismissive of the event (ICC = 0.93).	Refusing to acknowledge the problem; dismissing its importance; changing topics.
		Superficial problem-solving: contributions to the discussion and any problem-solving is information-orientated and factual (ICC = 0.87).	Information that lacks reflection - reveals little about the person's thoughts or feelings about the event.
		Hypo-emotion expression: a lack or absence of emotional content such as references to emotional causes, evaluations, states and behaviours experienced (ICC = 0.79).	Not responding to emotion related questions - either about their own or partner's emotions related to the event.
<i>Strategy B</i>	An overall focus on memory details describing the causes and consequences of the event, rather than a resolution. Engagement in problem-solving emphasizes the person's own perspective of the event (inflexible perspective-taking), and on emotion-oriented event details (ICC = .85).	Repetitive problem engagement: perseverating on the person's <i>own</i> experience of the event and the extent to which they were affected by it (ICC = 0.81).	Expressing the same sentiment repeatedly in different ways; pessimistic appraisals of potential solutions.
		Self-focused orientation: problem-solving that focuses on the individual's perspective of the event – thoughts, emotions, causes and consequences of the event without integration or acknowledgement of the other person's perspective, and no resolution attempted or reached (ICC = 0.83).	Invalidations of other's perspective; "monologuing" of details regarding the person's own experience of the event, without integration or acknowledgement of partner's view.
		Hyper-emotion expression: the individual's contributions are imbued with high levels of emotional content - that emphasise emotion states, behaviours, causes of the emotion, and the extent to which the emotions were experienced for the individual (ICC = 0.82).	Use of words that exaggerate feelings or negative consequences (e.g., I was <i>really, really</i> overwhelmed with anger...)
<i>Strategy C</i>	A collaborative discussion of the event, involving both the parent's and adolescent's perspectives. This includes the acknowledgement of the conflict and active problem-solving towards a resolution, with a reciprocal approach to discussing event details, including thoughts and emotions (ICC = .88).	Collaborative engagement: a collaborative co-construction of a memory where both perspectives are shared and integrated. This includes reflecting on the event in a way that incorporates and validates both partner's views, thoughts and emotions; and adopting a reciprocal and understanding approach to elaborating on event details (ICC = 0.82).	Using open-ended/explorative questions such as What? Where? Who?; validating partner's perspective by providing verbal encouragements (e.g., "mmm", "yup").
		Approach-orientated problem-solving: a constructive approach to problem-solving, that involves a joint discussion of causes and consequences where a resolution is reached or agreed on (ICC = 0.83).	Reframing and reappraising of the problem (i.e., sees the positive in the situation, recognizes improvements, views the problem as an opportunity to strengthen relationship).
		Balanced emotion expression: an individual acknowledging and expressing their own and/or their partner's emotions experienced by the event (emotional causes, evaluations, states and behaviours) without emotional details of the event taking over the conversation. (ICC = 0.75).	Being responsive to their partner's expression of emotions experienced (i.e., recognizing partner's emotions, expresses understanding).

Note. A reminder that the global strategies (A, B and C) were coded independent of the respective strategy sub-strategies. ICC = Interclass Correlation Coefficient.

Comparison measure. Maternal and adolescent scaffolding behaviours, emotion expression and resolution were coded for using an adapted version of the Coding Listener Responses: PPC (McLean & Mansfield, 2012) coding scheme (see Appendix B for full coding scheme, adapted originally from Haden et al., 1997; and Bird & Reese, 2006). This coding scheme was used as the comparison measure to evaluate convergent and divergent validity of reminiscing qualities measured by the dyadic coding scheme.

Maternal and adolescent scaffolding behaviour. Mother and adolescent conversational turns were coded using a mutually-exclusive and exhaustive coding scheme, that captured different types of scaffolding behaviour (see Table 2.2). Mothers and adolescents' transcripts were coded independently (counterbalanced¹) for memory questions and evaluations.

Table 2.2. *Descriptions of Maternal and Adolescent Scaffolding Behaviours.*

Code	Description	Example
Memory questions		
<i>Elaborations</i>	Memory details that introduce new information about the event, elicited new details from the other person, or extended on the other person's contribution of event details (ICC = 0.94).	"wh" questions (what, when, where, why), factual information, thoughts and opinions on the event.
<i>Reiterations</i>	Questions and statements that repeated what the other person said, or only required a yes or no answer (ICC = 0.75).	"that made you upset didn't it?"
Evaluations		
<i>Negations</i>	Any instance of the individual disagreeing with the other person's statement (ICC = 0.76).	"no that is not what happened".
<i>Confirmations</i>	Any instance of the individual agreeing with or confirming the other person's statement (ICC = 0.90).	"yes that's right, it was during the school holidays".

Emotion expression. Each participants' global level of expressed emotional aspects of the event were coded on a 5-point scale. Emotion expression was broadly defined as including any mention of emotional state or behaviour (e.g., yelling, crying) as well as the causes of emotional states, attempts to elicit emotion details from the other person (e.g., "how did you

¹ Counterbalancing of the coding in the current study reflects parent reminiscing qualities being coded first, in half of the pairs, and in the other half, adolescent reminiscing qualities were coded first.

feel?”), or evaluations of the event (i.e., “I hated that”). Low scores indexed a lack of emotion expression (e.g., the narrative emphasised non-emotional elements of the event such as facts or action-oriented details). High scores indexed individuals being overwhelmed by the emotional aspects of the event (e.g., the memory emphasises emotional details of the event *with the majority of turns including emotion content* including expressing the experience of a high level of *emotions during the event* “it was a really, really bad time. I was so mad”. emotional content (ICC = 0.81).

Resolution. Coders assessed the degree to which each participant attempted a resolution in the conversation. Resolution was defined as an attempt to reduce the negative strength of an event by offering a solution, a coping strategy or introducing a positive emotion or meaning. Resolution was coded on a 3-point scale (1 = *no resolution*, 2 = *partial resolution*, such as mentioning but not elaborating on a resolution, 3 = *fully resolved* (ICC = 0.74).

Results

Correlational analyses in SPSS v24 tested convergent and discriminate validity of the dyadic coding scheme. We examined the extent to which the strategies and dimensions of the scheme were correlated with scaffolding behaviours (memory questions and evaluations), emotion expression, and resolution measured using the Mansfield and McLean (2012) coding scheme. Results for adolescents are presented in Table 2.3 and mothers are presented in Table 2.4. In the subsequent sections we present evidence for the validity of each of the strategies.

Table 2.3. *Descriptive Statistics and Zero-Order Correlations Representing Associations Between Adolescent Dyadic Coding Scheme Variables and Traditional Reminiscing Variables.*

Dyadic coding (Adolescent)	Adolescent Scaffolding Behaviours					Emotion Expression	Resolution
	Mean (SD)	Elaborations	Reiterations	Confirmations	Negations		
Mean (SD)		13.61 (8.50)	0.39 (0.76)	6.12 (5.13)	1.94 (2.85)	2.45 (1.13)	1.91 (0.81)
Strategy A	1.93 (1.61)	-.415*	-.249*	-.267*	.138	-.414*	-.493*
Avoidance/disengaged	1.87 (1.63)	-.344*	-.239	-.251*	.187	-.377*	-.490*
Superficial	2.04 (1.61)	-.430*	-.288*	-.315*	.080	-.485*	-.542*
Hypo-emotion expression	1.96 (1.49)	-.375*	-.266*	-.276*	.245*	-.526*	-.479*
Strategy B	1.55 (1.26)	.309*	.137	-.271*	.743*	.313*	-.248*
Repetitive	1.58 (1.36)	.349*	.071	-.238	.738*	.290*	-.226
Self-focused	2.16 (1.57)	.205	.111	-.254*	.667*	.375*	-.214
Hyper-emotion expression	1.25 (0.77)	.297*	.167	-.185	.617*	.391*	-.207
Strategy C	3.28 (1.71)	.391*	.182	.539*	-.455*	.309*	.694*
Collaborative	3.37 (1.61)	.357*	.239	.535*	-.502*	.247*	.628*
Approach	3.01 (1.88)	.416*	.145	.498*	-.384*	.282*	.736*
Balanced emotion expression	3.36 (1.73)	.358*	.193	.448*	-.395*	.397*	.595*

Note. * $p < .05$.

Table 2.4. *Descriptive Statistics and Zero-Order Correlations Representing Associations Between Maternal Dyadic Coding Scheme Variables and Traditional Reminiscing Variables.*

Dyadic coding (Mother)	Maternal Scaffolding Behaviours					Emotion Expression	Resolution
	Mean (SD)	Elaborations	Reiterations	Confirmations	Negations		
Mean (SD)		25.84 (14.45)	4.54 (3.56)	3.87 (3.15)	1.57 (2.03)	3.07 (1.30)	2.37 (0.81)
Strategy A	1.31 (0.82)	-.278*	-.240	-.107	.028	-.365*	-.201
Avoidance/disengaged	1.19 (0.68)	-.199	-.175	-.179	-.015	-.241*	-.188
Superficial	1.46 (0.91)	-.335*	-.274*	-.216	-.013	-.467*	-.196
Hypo-emotion expression	1.43 (0.91)	-.306*	-.321*	.063	.078	-.518*	-.222
Strategy B	1.76 (1.47)	.156	-.048	-.262*	.366*	.177	-.356*
Repetitive	1.72 (1.46)	.118	-.060	-.195	.345*	.131	-.368*
Self-focused	2.16 (1.71)	.163	-.092	-.302*	.343*	.104	-.317*
Hyper-emotion expression	1.51 (1.17)	.246*	.010	-.194	.329*	.254*	-.297*
Strategy C	3.93 (1.72)	.153	.336*	.452*	-.240	.282*	.432*
Collaborative	3.94 (1.67)	.085	.383*	.491*	-.267*	.276*	.340*
Approach	3.99 (1.98)	.176	.371*	.461*	-.194	.272*	.511*
Balanced emotion expression	3.82 (1.91)	.217	.322*	.397*	-.259*	.411*	.347*

Note. * $p < .05$.

Evidence for Convergent and Discriminant Validity for Strategy A

We hypothesised that strategy A (disengagement, superficial problem-solving and a lack of emotion expression) would be positively associated with maternal and adolescent reminiscing qualities that discontinue the conversation and negatively associated with measures of supportive and constructive reminiscing practices. Specifically, strategy A and its sub-strategies would be positively related to maternal and adolescent negations, but negatively associated with elaborations, confirmations, reiterations, emotion expression and problem solving/resolution seeking reminiscing. Findings supported our hypotheses for strategy A.

Specifically, for adolescents, strategy A, as well as all three sub-strategies of avoidance/disengagement, superficial problem-solving and hypo-emotion expression, had small positive associations with their own use of negations. All variables were also moderately negatively associated with use of elaborations, reiterations, confirmations, emotion expression and resolutions. Thus, strategy A appears to be related to a combination of negating conversation topics and emotion expression, with a particular *lack* of extending the conversation, adding of detail or agreement in the narratives.

Similarly, as also hypothesised, mothers' use of strategy A was moderately negatively associated with elaborations, reiterations, confirmations, emotion expression and resolutions. Strategy A, for mothers, also had small positive associations with negations at the overall level and with the dimension of hypo-emotion expression.

Overall, the patterns of correlations (Tables 2.3 and 2.4) indicate little endorsement of all reminiscing qualities measured apart from negations, providing convergent and discriminant validity to suggest that strategy A is characterised by an overall lack of engagement from the individual and is related to qualities that serve to discontinue the conversation.

Evidence for Convergent and Discriminant Validity for Strategy B

Strategy B represents repetitive problem engagement, self-focused orientation and high levels of emotional content. We hypothesised that strategy B would be positively associated with maternal and adolescent reminiscing qualities associated with highly detailed reminiscing (elaborations, emotion expression) but also markers of less collaborative conversations (negations) and negatively associated with measures that promote memory co-construction and adaptive problem-solving (confirmations, reiterations, and resolution seeking).

For adolescents, the use of strategy B and its sub-strategies (repetitive problem engagement, self-focused orientation, and heightened emotion expression) were positively associated with elaborations, reiterations, negations and emotion expression. Strategy B was

also moderately negatively related to confirmations and resolution-seeking. These findings provide support for all predictions made for strategy B and its respective sub-strategies of repetitive problem engagement, self-focused orientation, and hyper-emotion expression, indicating that strategy B reflects a set of reminiscing qualities that are related to a detailed recollection of a memory, however lacks co-construction of the event details. That is, the nature of the conversation revolves around one person's perspective and results in the conversation not moving forward.

Comparably, as predicted, mothers' use of strategy B, and the sub-strategies, were small to moderate and positively associated with elaborations, negations and emotion expression. Strategy B was also moderately negatively related to use of confirmations, resolution and reiterations – at the overall strategy level as well as with the sub-strategies of repetitive problem-engagement and self-focused orientation.

Overall, the patterns of correlations (Tables 2.3 and 2.4) provide convergent and discriminant validity for strategy B capturing the reminiscing quality of elaborations which have a repetitive and self-focused orientation and are used in the context of other qualities such as negations (and low levels of confirmations), high levels of emotion expression, and in the absence of problem-solving towards a resolution.

Evidence for Convergent and Discriminant Validity for Strategy C

Strategy C represents collaborative engagement, approach-orientated problem solving and a balanced expression of emotion content. We hypothesised that strategy C and its sub-strategies (collaborative engagement, active problem-solving and balanced emotion expression) would be positively associated with maternal and adolescent reminiscing qualities reflective of a highly detailed, constructive and collaborative reminiscing practices (elaborations, reiterations, confirmations, emotion expression and problem-solving/resolution seeking; and negatively associated with measures indicating an unbalanced or disengaged discussion (negations). Note that like strategy B, strategy C was also predicted to be positively associated with highly detailed reminiscing conversations. Strategy B and C attempt to tease apart the notion of “elaborative” conversations, by acknowledging that elaborative detail can present on a continuum from being highly collaborative (i.e., understanding and engaging with the other person's perspective) to having a more self-focused orientation, during parent-adolescent reminiscing conversations.

For both adolescents and mothers, strategy C and its three sub-strategies of collaborative engagement, approach-orientated problem-solving, and balanced emotion expression, had small to moderate positive associations with elaborations, reiterations, confirmations, emotion expression and problem-solving/resolution-seeking. Conversely, they were negatively associated with use of negations. These patterns of findings (Tables 2.3 and 2.4) provide support for all hypotheses made for strategy C and its sub-strategies, for adolescents and mothers, by demonstrating that strategy C is characterised by elaborative discussions involving emotion expression, but unlike strategy B, they are also characterised by low levels of negations and high levels of confirmations, perspective-taking, resolution seeking and collaborative engagement.

Discussion

A growing body of literature is demonstrating that the qualities of parent-adolescent conversations about past events are associated with adolescents' psychological wellbeing. Cross-sectional research has found, for example, that a maternal reminiscing style characterised by greater use of elaborations and reiterations and fewer negations is concurrently associated with adolescents' more secure narrative identity (McLean & Mansfield, 2012) and decreased psychological reactivity (Manczak et al., 2015). Yet, despite these findings, the richness of parent-adolescent conversations may not be fully explored by traditional, individual-oriented approaches that predominantly focus on one person's reminiscing qualities (e.g., maternal scaffolding behaviours) and do not simultaneously capture the dyadic processes involved in shaping the expression and function of the conversational qualities.

The aim of the current study, therefore, was to test the validity of a dyadic coding scheme. The scheme was proposed to offer an enriched and contextualized approach to coding parent-adolescent reminiscing conversations by allowing researchers to examine parent and adolescent reminiscing qualities (both structure and content) in the interdependent context in which they are shaped. Validity was operationalised in terms of convergent and discriminant validity with respect to key conversational qualities assessed both by means of a dyadic and individually-oriented approaches to coding. Overall, we predicted that the coding schemes would overlap in the constructs they measure, but we would find differences in how the reminiscing qualities are expressed when accounting for dyadic processes (i.e., responsivity).

The patterns of correlational findings supported our hypotheses and provided validity for the dyadic coding scheme. Specifically, qualities coded in accord with the dyadic scheme strategy A (avoidance/disengagement) were positively associated with maternal and adolescent reminiscing qualities that promote the discontinuation of the conversation and low levels of

narrative detail, including negations, muted emotion expression, sharing of superficial levels of detail (rather than active problem-solving) as well as low levels of elaborations, confirmation and reiterations in the discussion of the past conflict event. Strategies related to repetitive problem engagement (strategy B) were positively associated with maternal and adolescent reminiscing qualities reflective of highly detailed narratives (elaborations and emotion expression), but also qualities that promote a lack of memory co-construction including a self-focused orientation to the discussion, negations, low levels of confirmations; and a lack of constructive problem-solving. Finally, maternal and adolescent reminiscing qualities promoting highly detailed and co-constructed conversations (strategy C), including, elaborations, confirmations, emotion expression, adaptive problem-solving including resolution-seeking as well as the use of reiterations, were significantly positively associated with dyadic processes characterised by collaborative engagement. It is important to mention here that while not all the relationships were significant, for the purposes of the current study, validity was established by focusing on the direction and size of the correlations. Some of the weaker correlations between the two schemes, likely reflected the different units of coding; that is, the global/dimensional nature of the dyadic coding categories, compared to the specific, utterance-based approach used in the traditional coding scheme. Overall, the results provide support for the utility of a dyadic approach to studying reminiscing qualities of parent-adolescent conversations about past events.

Parent-Adolescent Reminiscing: The Value of Taking a Dyadic Perspective.

We have proposed that one primary advantage of adopting a dyadic approach to coding is that this approach captures the interpersonal, or interdependent, nature that is inherent to conversation. Dyadic methods prioritise the relationship between the two members of the dyad, recognising the importance of considering each person's contributions to the conversation being a product of co-occurring processes at the level of the individual, partner and relational context of the interaction. Our findings demonstrate that accounting for the interdependent processes through our measurement of reminiscing qualities is particularly important in the context of the parent-adolescent relationship. For instance, the coding assessed how adolescent elaborations in *response* to parental elaborations differ in the context of collaborative parent-adolescent processes compared to the context of a self-focused individual orientation to the conversation. Furthermore, the findings highlight how structural, content, and relational qualities of parent-adolescent reminiscing conversations are inherently interrelated constructs.

We can see evidence of the advantages of dyadic methods in the results of the current study when we consider the findings of two specific reminiscing qualities: reiterations and

elaborations. First, the use of reiterations seems to shift in the context of the parent-adolescent relationship. This was reflected in our findings by adolescent and maternal reiterations being correlated with collaborative strategies. The patterns of results are consistent with McLean and Mansfield's (2012) proposal that an adolescent's need for an autonomous point of view during reminiscing conversations with their parent, means that reminiscing qualities can take on a different function compared to when reminiscing with younger children. For example, rather than closing off the discussion, reiterations used in the supportive context of turn-taking and collaboration can promote the co-construction of a narrative between a parent and adolescent (McLean & Mansfield, 2012). Despite their acknowledgment of the inherently dyadic nature of reminiscing, McLean and Mansfield's study did not explicitly account for these interpersonal or contextual aspects of conversation in their coding of reminiscing qualities. In the current research, we acknowledge the importance of both dyad members when studying parent-adolescent reminiscing from both theoretical and statistical perspectives. The dyadic coding scheme therefore extends McLean and Mansfield's research by offering a method of simultaneously capturing the content and structural components of adolescent and parent reminiscing qualities in the context of transactional processes such as collaboration and responsivity.

Second, our findings for elaborations further illustrate the importance of considering reminiscing qualities as interdependent constructs. The results confirmed that both adolescent and maternal use of elaborations were differentially related to strategies associated with repetitive problem engagement (strategy B) and collaborative engagement (strategy C), respectively. Elaborations appeared to serve a different function in the context of a self-focused orientation and high levels of emotional expression, compared to elaborations in the context of an emotionally balanced, jointly constructed conversation. This conceptualisation of elaborative reminiscing is consistent with the theoretical tenets of the Social Cultural Developmental Theory (Nelson & Fivush, 2004) that describe parent-child reminiscing as a collaborative task of co-construction, that involves dyadic processes such as mutual influence.

Taken together, the findings highlight the important point that a key feature of supportive reminiscing conversations is the *dyadic* responsiveness between the two individuals: Parents and adolescents are building conversations *together* by engaging each other's perspective in the retelling of the event. Dyadic processes such as responsiveness and mutual influence, have been found to play a meaningful role in predicting bidirectional outcomes in other fields of research (i.e., the interpersonal relationships literature; Overall, Fletcher, Simpson, & Sibley, 2009), family literature (Cook & Kenny, 2005; Cook, 2001). If

reminiscing qualities are coded or analysed without accounting for the interpersonal quality that is shaping the behaviour, the nuances of the interaction would likely be missed, and researchers would risk not fully capturing the functions of respective reminiscing qualities. When coded as a product of the interdependent processes operating during the interaction, the conversational qualities are shown to have different presentations depending on the parent-adolescent dynamics. We have proposed that these processes are particularly salient to conversations between parents and adolescents due to the shift in narrative skills and developmental goals that may promote more mutual participation during the conversation. Applying dyadic methods have the additional advantage of allowing researchers to statistically model both independent and interdependent processes of parent-adolescent reminiscing conversations.

In summary, the findings demonstrate how the dyadic coding scheme *contextualises* the way in which we study reminiscing qualities within the parent-adolescent interaction during reminiscing conversations, relative to the traditional approach to coding (i.e., person-centred method) reminiscing. This is not to say that one approach to coding is better than another. Rather, our findings suggest that both a traditional, person-centered approaches, and dyadic methods to studying reminiscing qualities, are complementary to each other – as is supported by the convergent associations across the coding schemes. Traditional person-centered coding schemes allow researchers to examine the respective qualities displayed by the individuals during the conversation; enabling researchers to draw conclusions about the respective roles that parents, and children have during reminiscing discussions. This approach has been instrumental in establishing the foundations of the reminiscing research literature and has been shown to be particularly well suited to capturing the dynamics of reminiscing between parents and young children (for example, research onto maternal scaffolding behavior and the influence it has on child outcomes).

Implications: Dyadic Methods Enriching Our Current Theoretical Models

The explicit approach that interpersonal methods take towards assessing the transactional nature of reminiscing conversations, offers an opportunity to extend our current knowledge on reminiscing in two key ways. First, by adopting a more relational based, dyadic approach to coding we can refine our understanding on the nature of reminiscing conversations in different socialisation contexts across development (i.e., friendships, teacher-child). This includes capturing the changing dynamics that are contributing to the shaping of reminiscing qualities and their functions at the level of the individual (i.e., developmental needs), the reminiscing partner (e.g., parent, friend) and the context of the interaction. Second, dyadic

methods statistically capture processes that underpin the major theoretical frameworks of reminiscing (i.e., Social Cultural Memory Theory; Nelson & Fivush, 2004). Fundamentally, theories of reminiscing and the related research acknowledge the relational quality (i.e., bidirectional nature) of the discussions (Gini et al., 2007; Laible & Song, 2006; Reese et al., 1993). Therefore, research can be enhanced by applying dyadic methods of studying reminiscing qualities that can account for the transactional processes referred to in interpersonal theories of reminiscing.

From a developmental perspective, dyadic methods are sensitive to the changing functions of reminiscing qualities in the context of parent-adolescent reminiscing relative to reminiscing with young children. This is in part due to adolescents' having a greater focus on balancing developmental goals centered around autonomy and relatedness meaning the nature of the interaction shifts more towards one of mutual influence and away from a mother-guided focus. For example, from a developmental perspective, it could be that such patterns of interaction reflect a form of assertive communication, which functions as a form of autonomy granting (versus undermining) behavior, which allows an adolescent to meet core developmental needs related to achieving independence (Allen et al., 2006). Applying dyadic methods of coding and analysing to account for the transactional nature of reminiscing when studying parent-adolescent conversations about the past is therefore developmentally necessary.

Limits to Generalisability and Future Directions

Overall, the findings provide support for the dyadic coding scheme as a useful tool for assessing qualities of reminiscing conversations in the context of a past conflict discussion between mothers and adolescents. However, there may be limits to the generalizability of the results, when we consider the utility of the coding scheme for studying reminiscing in different relationship contexts, such as father-adolescent reminiscing conversations. It is likely that the continuum of qualities studied through the dyadic coding scheme would appropriately capture the content of reminiscing conversation between fathers and adolescents, however there may be differences in the *function* of reminiscing qualities when considered in the context the child's gender (Adams, Kuebli, Boyle, & Fivush, 1995; Fivush, 2007). For example, we might expect fathers to present higher on codes that capture a more factual approach to problem-solving (i.e., the strategy A sub-strategy of "superficial problem-solving"), and lower on repetitive problem engagement behaviours (strategy B) when reminiscing with their sons. This would likely reflect differences in gendered socialisation of emotion-management approaches between males and females (Steinberg & Silk, 2002), whereby parents tend to discuss more

emotional content when reminiscing with their daughters compared to with their sons (Buckner & Fivush, 2000; Zaman & Fivush, 2013). From this perspective, a father's endorsement of greater factual based problem-solving qualities and lower rates of emotion talk during reminiscing discussions (as represented through strategy A), may be a function of gendered socialisation practices rather than reflecting a father's avoidance or disengagement from the discussion. Because the relational context is so important to the understanding the function of reminiscing qualities in conversations about the past, using the current dyadic coding scheme across different relationship structures would require careful consideration and trialling to ensure the codes are assessing what they are intending to.

The current study made some differentiations between qualities of reminiscing conversations measured through the dyadic coding scheme compared to a traditional reminiscing coding scheme. Now that concurrent and discriminant validity of the dyadic coding scheme have been established, the next step is to test the predictive validity of the coding schedule. This would involve taking this dyadic approach to coding and applying it to studies looking at the relationship between parent and adolescent reminiscing and their associated outcomes. By doing so, we will better understand how the differences we see in the approach to coding that dyadic methods take, then unfolds in informing the processes and relationships we see. This is a good direction for future research.

Concluding Comments

In summary, from a theoretical perspective, dyadic methods are consistent with the basic assumptions of reminiscing being an interpersonal process. Dyadic methods of coding allow researchers to model these interpersonal dynamics using techniques developed for interdependent datasets. Dyadic coding may, therefore, be particularly useful when examining reminiscing in the context of the parent-adolescent dyad, where developmental changes sees a shift to a potentially greater emphasis on mutual influence between a parent and adolescent during the co-construction of a narrative. Adopting a more interpersonal approach to studying reminiscing qualities has the potential to enrich our methods and refine our understanding of transactional processes involved in parent-adolescent reminiscing.

Chapter 3

Study 2: The Cross-Sectional and Longitudinal Relationships Between Parent-Adolescent Reminiscing Qualities, Youth Rumination, and Internalising Symptoms.

In Chapter 1, we established the convergent and discriminant validity of a coding scheme that dyadically assessed parent-adolescent reminiscing conversations. Specifically, the dyadic coding scheme captured maternal and adolescent content and structural qualities of reminiscing conversations in a way that simultaneously accounted for the interpersonal processes, such as mutual influence, that shape the expression and function of these qualities. For example, the reminiscing quality of elaborations coded in the context of supportive interpersonal qualities, such as collaboration and validation, presented differently to elaborations used in the service of a self-focused orientation. Furthermore, we proposed that accounting for the interpersonal processes of parent-adolescent reminiscing conversations is developmentally important because of complex changes to parent-adolescent relationship dynamics as well as an adolescent's greater participation in the co-construction of the narrative with their parents, compared to when reminiscing with young children.

As we discussed in Chapter 1, coding for reminiscing qualities across both parent and adolescent means that the dyadic coding scheme lends itself to dyadic statistical analyses. This allows researchers to further model and test the transactional nature of parent-adolescent reminiscing and its effects on youth psychological outcomes. Thus, with the methodological foundations laid, in Study 2 (Chapter 3), we describe the application of the dyadic coding schedule to examine the cross-sectional and longitudinal relationships between parent-adolescent reminiscing and youth rumination and internalising problems (depression and anxiety). We expected, that unsupportive parent-adolescent reminiscing qualities would be associated with greater adolescent rumination, depression, and anxiety cross-sectionally and longitudinally. In contrast, supportive parent-adolescent reminiscing qualities were predicted to be related to lower levels of youth rumination, anxiety and depression cross-sectionally and longitudinally.

Abstract

The purpose of the current research was to investigate the cross-sectional and longitudinal relationships between parent-adolescent reminiscing and youth rumination and internalising symptoms (anxiety and depression). Despite research linking qualities of parent-child discussions about past emotion-laden events to children's socioemotional development and broader psychological outcomes during childhood (Fivush, 2007; Salmon & Reese, 2016), the role of parent-adolescent reminiscing in adolescent psychological adjustment has received less attention. We know, however, that adolescence is a time of heightened vulnerability for the development of psychopathology, particularly rumination and internalising symptoms (Stone, Hankin, Gibb, & Abela, 2011). Drawing from the broader youth emotion socialisation literature, the current study aimed to answer three main research questions: how do mothers and adolescents manage emotions during a conversation about a past negative event? How do adolescent and maternal reminiscing qualities relate to adolescent and maternal levels of rumination, anxiety, and depression cross-sectionally? Do parent-adolescent reminiscing conversational qualities predict youth rumination and internalising symptoms longitudinally? In a cross-sectional study (Study 2a), conversations about a shared conflict event were collected from a community sample of 67 mother-adolescent dyads and coded for supportive and unsupportive reminiscing qualities through a dyadic coding scheme. Note. This was the same sample and set of reminiscing conversations used in Study 1. Self-report measures of maternal and youth rumination, anxiety and depression were also collected. A follow-up time point was also conducted (Study 2b) that measured youth rumination, anxiety and depression after a 12-month period so that we could examine the longitudinal associations. Dyadic analyses were applied which allowed us to account for the interdependent nature of parent-adolescent reminiscing conversations and model transactional effects between reminiscing qualities and youth outcomes. The studies' findings revealed a bi-directional relationship between maternal and adolescent use of unsupportive reminiscing qualities and anxiety symptoms concurrently. There were no significant lagged associations found longitudinally (12-month period). However, post-hoc hypothesis-guided moderation findings provided initial evidence for the potential role of adolescent engagement in supportive reminiscing qualities during parent-adolescent reminiscing in buffering the growth of youth anxiety symptoms over time. The findings extend the current literature by providing support for the role of parent-adolescent reminiscing in youth psychological adjustment, specifically anxiety. Moreover, the transactional nature of the effects highlights the complex and dynamic nature of reminiscing during adolescence, which has implications for theory and practice.

Introduction

Adolescence is a time of heightened vulnerability for the development of psychological difficulties and internalising problems. We investigated the extent to which socialisation of emotional responses during interactions between parents and adolescents played an important role in adolescents' rumination and internalising symptoms, specifically anxiety and depression. For example, the way in which parents encourage and validate their adolescent child's emotion expressions, as well as label and discuss the causes and consequences of emotional states, offer opportunities for adolescents to learn to understand and manage their emotional experiences (Morris, Silk, Steinberg, Myers, & Robinson (2007); Miller-Slough & Dunsmore, 2016). Supportive *parental* emotion socialisation behaviors, in turn, are related to better psychological adjustment in adolescents (Miller-Slough & Dunsmore, 2016). Despite evidence demonstrating the critical role that discussions of past events (i.e., reminiscing conversations) play in the development of *young children's* emotion competencies and socio-emotional development more broadly (see Wu & Jobson, 2019 for review; Laible, 2004, 2011; Salmon & Reese, 2016; Van Bergen & Salmon, 2010; Van Bergen, Salmon, Dadds, & Allen, 2009), there are significant gaps in our understanding of reminiscing conversations between parents and adolescents, and how qualities of parent-adolescent reminiscing relate to adolescent psychological adjustment. We addressed these gaps in the present research by: (1) examining the way in which mothers and adolescents managed emotions as they talk about a conflict from their past, (2) investigating the associations between qualities of the mother-adolescent reminiscing conversations and adolescent internalising problems, both cross-sectionally and longitudinally, while (3) also applying a dyadic approach in conversational coding and analyses to capture the interdependent nature of the interactions.

Adolescent Development: Psychological Functioning and Emotion Socialisation

Adolescence encompasses a period of changes in developmental tasks and needs that converge with a growth in psychological difficulties. Rates of internalising disorders, in particular depression and anxiety, increase during the adolescent period (Allen et al., 2006; Stone, Hankin, Gibb, & Abela, 2011), with prevalence rates from 14% (depression) to 32% (anxiety disorders) in US adolescents and high levels of comorbidity between the two (Kessler, Chiu, Demler, & Walters, 2005). One key factor underlying the high prevalence of internalising problems, particularly for females, is the heightened engagement in rumination (Lyubomirsky, Layous, Chancellor, & Nelson, 2015). Rumination is a pattern of abstract and repetitive negative thinking that has been associated with the development and maintenance of a range of psychological disorders (Lyubomirsky et al., 2015). In this regard, rumination, as a form of

repetitive negative thinking, has been conceptualized by some researchers as a transdiagnostic process that functions to escalate and maintain both anxiety and depression symptoms (e.g., McEvoy, Watson, Watkins, & Nathan, 2013; Buckholdt, Parra, & Shields, 2014). Unsurprisingly, given the overlapping nature of the three constructs (depression, anxiety, and rumination) research has focused on understanding the ways that adolescents learn to manage their emotional experiences as a potentially key factor in determining adolescent psychological adjustment. One such factor is the emotion socialisation context.

Emotion socialisation refers to the interpersonal process by which youth learn how to recognise, label and manage their emotions (Brand & Klimes-Dougan, 2010). Key mechanisms include observing others' (parents and caregivers) emotional expressions (modeling), developing a behavioural repertoire that is shaped by parents' and caregivers' responses to an adolescent's emotional displays, and coming to understand and talk about emotions via discussions of emotional experiences (Morris et al., 2007). Socialisation occurs through reciprocal influences between the members of the dyad. Thus, the outcomes of the socialisation process are a product of both individual (young person, parent/caregiver) and relational processes (i.e., the reciprocal qualities of the dyad's interaction such as mutual influence and responsivity) (Ackerman, Donnellan, Kashy, & Conger, 2012; Kerr, Stattin, Biesecker, & Ferrer-Wreder, 2003). Despite the dyadic nature of emotion socialisation, this approach has not typically been adopted in youth emotion socialisation research.

Prominent theories of development emphasize the importance of dyadic interactions for understanding socialisation across child development, stating that "... mutual reciprocity or responsiveness appears to be an important quality of the parent-child relationship and one that differentiates individual dyads. Moreover, such mutual or reciprocal orientation is a foundation for a host of outcomes central in successful socialisation" (Konchanska, 1997, p. 94). Transactional theories (such as the Sociocultural Theory; Vygotsky, 1978; also see Nelson & Fivush, 2004) also propose that development cannot be separated from its social context. In Vygotsky's (1978) Sociocultural Theory, relationships and interactions between a parent and child are conceptualized as a system of mutual influence; parents influence their children's socialisation outcomes while, simultaneously, children influence their parents' contributions to the interaction (Bell, 1968; Maccoby, 1992; Morris, Cui, Criss, & Simmons, 2018; Nelson & Fivush, 2004). Similarly, systems perspectives (Bronfenbrenner & Morris, 2006) define developmental outcomes arising from a *dynamic interaction* between an individual and their social environment (Ackerman et al., 2012; Baumrind, 1980; Cook, 2001). Collectively,

developmental theories acknowledge that dyadic processes are fundamental to emotional development across the lifespan.

Emotion socialisation practices between parents and their *youth* are particularly important because of the unique social and emotional challenges faced during the adolescent period. In contrast to childhood, adolescence is characterised by heightened intensity and frequency of emotional experiences, an acute sensitivity towards peer evaluation and social acceptance, and a striving for a greater sense of autonomy (Blakemore, 2018; Blakemore & Mills, 2014; Somerville et al., 2013; Yap, Allen, & Sheeber, 2007). Adolescents are approaching their experiences with more independence, and this includes strengthening social relationships outside their family while maintaining a sense of relatedness to parental figures. The balance of autonomy and relatedness needs also sees shifts in the dynamics of the parent-adolescent relationship (Allen et al., 2006; Steinberg & Morris, 2001). While friendships become a more a salient and valued relationship context for social learning and feedback during adolescence, the parent-adolescent relationship is often characterised by more frequent and emotionally fueled conflicts (Blakemore & Mills, 2014). Despite this social reorientation, parents continue to play a key role in helping adolescents to develop more adaptive emotion competencies (Dahl, Allen, Wilbrecht, & Suleiman, 2018; Miller-Slough & Dunsmore, 2016; Morris et al., 2007).

Parent-Adolescent Emotion Socialisation and Adolescent Internalising Problems: Rumination, Anxiety, and Depression.

As supported by a small but growing number of studies, the ways in which parents respond to and discuss their adolescents' emotional experiences are related to youth emotion competencies and internalising problems. Within research investigating emotion socialisation practices, two broad categories have been identified: *supportive* or *unsupportive* strategies. Supportive strategies include parental validation of the adolescent's emotions and experience, encouragement of adolescent emotional states and expression, as well as having a problem-solving focus (Buckholdt et al., 2014; Yap, Schwartz, Byrne, Simmons, & Allen, 2010). Supportive strategies help provide a context for the young person to build on their earlier learning to understand, express, and manage negative emotions (Eisenberg, Cumberland, & Spinrad, 1998; Klimes-Dougan & Zeman, 2007). In turn, supportive strategies are cross-sectionally related to fewer internalising problems amongst community samples of youth (Stocker, Richmond, Rhoades, & Kiang, 2007; Klimes-Dougan et al., 2007). In contrast, unsupportive behaviours include parental invalidation of adolescent expression and experience

of negative and positive emotion; minimizing, excessive encouragement of negative emotion expression, and avoidance of emotion (Miller-Slough & Dunsmore, 2016). These kinds of strategies can heighten the adolescent's distress and communicate that emotions are unacceptable (Schwartz, Sheeber, Dudgeon, & Allen, 2012). Unsupportive strategies have been found to be cross-sectionally associated with higher levels of internalising symptoms in community samples of adolescents (Buckholdt et al., 2014; Jobe-Shields, Buckholdt, Parra, & Tillery, 2014; Klimes-Dougan et al., 2007; Stocker et al., 2007; Schwartz et al., 2012).

The link between parental emotion socialisation strategies in maintaining adolescent *anxiety* symptoms, specifically, has also been established (Miller-Slough & Dunsmore, 2016; for review see Yap, Pilkington, Ryan, & Jorm, 2014). Unsupportive parental responses to adolescent negative emotions in the form of emotional avoidance appears to play an important maintaining role in adolescent anxiety. For example, in a cross-sectional study with clinical and non-clinical samples of anxious youth, Suveg et al. (2008) found that parents of anxious (relative to non-anxious) adolescents discussed emotions less (that is, provided fewer explanatory details related to the emotion state), focused more on negative emotions, and discouraged adolescents' expression of emotion. These effects held after controlling for parental levels of anxiety and depression.

In research investigating the relationships between emotion socialisation behaviours and rumination, maternal responses towards adolescent expression of affect during emotion discussions have been identified as important longitudinal pathway to youth rumination. Cox, Mezulis, and Hyde (2010) found that mothers' encouragement of emotion expression by their adolescent (i.e., when mothers responded to adolescent emotion with attention and encouragement) predicted *higher* levels of adolescent rumination four years later. That is, greater support appeared to predict poorer adolescent psychological functioning over time (maternal psychopathology was not measured or controlled for in this study). In contrast, unsupportive parental strategies have also been found to be related cross-sectionally to poorer adolescent psychological wellbeing. Specifically, a recent cross-sectional study showed that mothers who encouraged emotion "disengagement" strategies (i.e., denial, avoidance and distraction from emotion) and, in addition, engaged in fewer "approach" behaviours (i.e., problem-solving, support seeking, and positive thinking to overcome the negative emotions) had adolescents with greater levels of rumination after controlling for maternal levels of depressive symptoms and ruminative brooding (Stroud & Fitts, 2017). The contradictory findings between parental responses to adolescent emotion and levels of rumination may reflect differences in methods of measurement. Whereas Cox et al. (2010) focused on parental

encouragement of emotion expression, the responses investigated by Stroud and Fitts (2017) were more active strategies of responding to the adolescent's emotion expression. Thus, the latter suggest that more active approaches, such as problem-solving, may help to teach more active forms of emotion management that are inversely related to passive coping strategies such as rumination.

Comparable to the findings discussed above for adolescent anxiety, similar patterns of associations were found in research investigating parental emotion socialisation behaviors and youth depression. Cross-sectional research with community samples found that parents of adolescents who presented with higher levels of depressive symptoms were less likely to engage in supportive emotion socialisation behaviours compared to parents of adolescents with lower levels of depression (Katz et al., 2014; Loughheed et al., 2016). Furthermore, parents were more likely to dampen positive affect expressed by more depressed adolescents during interactions, and these patterns were found after maternal levels of anxiety and depression were statistically controlled (Yap, Allen, & Ladouceur, 2008). Similar patterns of association are found in studies involving samples of clinically depressed adolescents. Parents of depressed adolescents were less accepting of positive or negative emotions (Katz et al., 2014) and received more unsupportive responses from their parents (Shortt et al., 2016) compared to adolescents in the non-clinical sample (note that neither study controlled for parental levels of depression in their analyses). There is also a growing body of literature linking autonomy dismissing (e.g., invalidating the adolescents' perspective), versus granting (i.e., encouraging and eliciting the adolescent's perspectives), behaviors on youth depressive symptoms (Allen et al., 2006; Yap et al., 2014). The findings from these studies underscore the importance of the parent-adolescent relationship context for encouraging adolescents' autonomy and psychological adjustment.

In summary, findings reveal robust, albeit largely cross sectional, evidence that supportive and unsupportive parental responses to adolescent negative and positive emotion are differentially related to youth psychopathology. The types of parent emotion socialisation behaviours related to specific psychological outcomes of depression, anxiety, and rumination are mixed, however. Moreover, the cross-sectional nature of the research findings means that a causal link between parental emotion socialisation behaviours and youth depression, anxiety, and rumination, respectively, cannot be concluded. Furthermore, most research on youth emotion socialisation has focused on understanding parent emotion socialisation behaviours on youth outcomes (Kerr & Stattin, 2003). This unidirectional approach has meant that studies have failed to capture the bidirectional processes of emotion socialisation (i.e., mutual

influence) referred to in theories of child socialisation. By not systematically accounting for both individuals in the dyad, it is unclear how parent and adolescent emotion socialisation behaviours and symptoms of psychopathology are independently and/or reciprocally shaping youth psychological outcomes. Finally, from a theoretical perspective, one socialisation context that has been largely overlooked in the broader emotion socialisation literature is the role of conversations about *past* events in the development of adolescent emotion management strategies. Yet we know from existing research in the field of autobiographical memory that the conversational qualities of discussions about past emotion-laden events between a mother and their young person is an important context for emotion socialisation (Fivush, 2007; Fivush, Haden, & Reese, 2006).

Maternal Reminiscing as a Context for the Socialisation of Adolescents' Emotion Competencies.

Parent-child conversational exchanges about past events—*reminiscing*—are theorised to play a unique role in supporting children's development of emotion competencies (Laible & Song, 2006; Salmon & Reese, 2015). From a theoretical perspective, parent-child conversations provide a context where the event can be discussed without the initial level of emotional arousal that is present at the time of the event (Nelson & Fivush, 2004; see also McGuigan & Salmon, 2004). Thus, children can have the opportunity to reflect on their emotional experiences, learn how to understand and manage their emotions, and recognize the benefits of the reflecting on the past (Fivush et al., 2006; Wareham & Salmon, 2006). Indeed, emotional reflection after *negative* experiences, such as interpersonal conflict, are particularly important: discussions about past negative events tend to elicit greater emotion talk, contain more open-ended questions, and provide more opportunities to discuss causes and consequences of events compared to positive events (Fivush et al., 2006; Salmon & Reese, 2015; Wareham & Salmon, 2006).

Moreover, particular styles of reminiscing have been shown to be effective for emotional development across childhood (Salmon & Reese, 2016). In research focusing on the role of reminiscing in children's socioemotional development in individualistic cultures, cross-sectional and longitudinal studies with young children have found higher levels of emotion competencies (i.e., emotion recognition, expression and management) amongst children whose mothers use elaborative techniques such as open-ended questioning, provide more explanations and evaluations (e.g., confirming the child's input); display emotional expressions, validate their child's contributions, and offer solutions (problem solve) when discussing negative emotional events that the mother and child have experienced together (Fivush, 2007, 2011;

Laible, 2004). Highly elaborative mothers expand on their child's contributions in ways that enables the child to contribute to the co-construction of the memory (Salmon & Reese, 2015). Another core element of reminiscing is the emotional quality of the interaction between the parent and child. Emotional qualities of reminiscing include, warmth, support (including autonomy support), validation, and intersubjectivity (i.e., the extent to which the parent and child are on the same page) (Cleveland & Reese, 2005; Gini, Oppenheim & Sagi-Schwartz, 2007; Laible, 2011; Laible & Song, 2006; Zaman & Fivush, 2013). The emotional qualities of joint reminiscing are suggested to communicate the value of reminiscing to a child and have been associated with greater socioemotional understanding in children (Laible & Song, 2006; Zaman & Fivush, 2013;).

Experimental studies have extended this work by demonstrating that emotion-rich and elaborative reminiscing enhances children's understanding of the causes of emotions and their recall of an event (Van Bergen & Salmon, 2010; Van Bergen, Salmon, & Dadds, 2018; Van Bergen et al., 2009). Further, cross-sectional studies with mothers and their preadolescent children demonstrate that these conversational qualities during parent-child reminiscing are associated with higher levels of coping strategies and fewer internalising problems amongst preadolescents (Fivush & Sales, 2006; Sales & Fivush, 2005). Recently, research has emerged investigating the relationship between parent reminiscing behaviors and youth psychological outcomes. For example, a study examining the relationship between caregiver and adolescent reminiscing qualities and adolescent experience of post-traumatic stress symptoms (PTSS) following a natural disaster found that caregivers who, during reminiscing with their adolescent, displayed more egocentrism (i.e., a tendency to redirect the focus of conversation to their own emotion states and experiences at the expense of the adolescent's experiences and perspectives), had adolescents who reported greater PTSS (Hendrickson, Abel, Vernberg, McDonald & Lochman, 2019). Collectively, the findings provide support for a relationship between certain kinds of mother-child reminiscing qualities, particularly about negative experiences, and child and youth emotion understanding and management.

Despite findings on the relationship between maternal reminiscing styles and both adaptive and maladaptive socioemotional outcomes during early childhood and up to pre-adolescence (Salmon & Reese, 2016), no research has investigated the relationship between reminiscing conversations and youth internalising problems beyond preadolescence. Yet findings show that styles of reminiscing are relatively stable across early childhood development (Reese, Haden & Fivush, 1993) and play a key role in a child's psychosocial adjustment (Reese, Macfarlane, McAnally, Robertson, & Taumoepeau, 2020). For this reason,

the current study will investigate the nature and function of reminiscing conversational qualities in parent-adolescent dyads. Specifically, we examined the ways in which parents and adolescents manage emotions during reminiscing discussions in relation to adolescent rumination, anxiety, and depression. Moreover, the relationships will be investigated both cross-sectionally and longitudinally, to disentangle the direction of effects over time. So far as we are aware, no previous research has adopted a longitudinal paradigm to address this issue.

The Proposed Integrated Conceptualization of Key Dimensions of Parent-Adolescent Conversations About the Past.

Even though the research investigating parent emotion socialisation behaviours (i.e., responding and discussion) and reminiscing discussions are grounded in different theoretical orientations, they share a view on elements of emotion discussions that are important for youth psychological adjustment. The present study draws from research on parent-adolescent emotion socialisation and internalising problems to investigate reminiscing conversations between parents and adolescents, and their relationships to youth rumination, depression and anxiety.

Integrating key elements from both sets of literature, reminiscing constructs including elaborations, evaluations (confirmation and negations), use of explanatory language (causes and consequences; resolutions) and emotion talk, as well the emotional qualities of reminiscing such as support and validations, can be collectively understood along a continuum of broader emotion socialisation behaviors: supportive strategies (e.g., collaboration, problem-solving, validation and emotion expression) and unsupportive strategies (e.g., emotional avoidance/disengagement, superficial problem-solving; as well as a self-focused orientation and a heightened focus on emotion content and expression). For example, elaborations (i.e., eliciting and providing new details during the reminiscing conversation) conceptualized along a continuum of supportive and unsupportive strategies, would be described at low levels as capturing unsupportive qualities of disengagement and avoidance while at high levels, elaborative reminiscing could present as either unsupportive (i.e., being self-focused in orientation whereby new detail is added but in a way that emphasises one person's perspective) or supportive (i.e., memory detail could be added collaboratively, whereby the narrative is co-constructed between parents and adolescents). In this way, it is not only the presence or absence of a particular element of reminiscing that makes the quality supportive or unsupportive; rather it is the context of the interaction and the interpersonal processes that determines the nature (presentation and function) of the conversational quality (see Study 1 for full rationale). In order to accurately capture the transactional nature of parent-adolescent reminiscing,

researchers need also to consider adopting dyadic methods when analysing parent-adolescent reminiscing conversations.

A Proposed Dyadic Method to the Study of Parent and Adolescent Reminiscing Qualities.

To date, a critical dimension missing from research investigating the role of reminiscing in socioemotional development are methods that account for the dyadic nature of the associations. From both a theoretical and methodological perspective, current approaches to analysing reminiscing discussions could go further to explicitly capture the interpersonal quality of the interaction. Research to date has tended to focus on the associations between maternal reminiscing behaviours and child outcomes. Yet these associations might provide only a partial glimpse of the interaction between a parent and adolescent reminiscing and youth outcomes. Other key factors that are likely to be important during parent-adolescent reminiscing include the adolescent's own conversational qualities and contributions. Moreover, changes in developmental demands during adolescence, such as an adolescent's growing need for autonomy, contribute to changes in the dynamics of parent-adolescent relationship; that is, the way in which adolescents engage in reminiscing discussions with their parents is likely to be different to pre-adolescent contexts (i.e., a developmental shift towards mutual influence and potentially greater emphasis on co-construction of the narrative) (McLean & Mansfield, 2012). Therefore, analytic methods need to be sensitive towards accounting for the changing dynamics of the parent-adolescent relationship and interactions during adolescence. One approach to addressing these methodological limitations is by adopting a formal dyadic approach to studying the relationship between parent-adolescent reminiscing qualities and youth psychopathology.

At the core of dyadic methods is the notion of interdependence, defined as follows:

...When one person's emotion, cognition, or behaviour affects the emotion, cognition, or behaviour of a partner... A consequence of interdependence is that observations of two individuals are linked or correlated such that the knowledge of one person's score provides information about the other person's score. (Cook & Kenny, 2005. p. 101).

That is, if two members in the dyad are related in some way their outcomes are not independent (Kenny, Kashy, & Cook, 2006). Theories of interdependence emphasise three core factors that simultaneously operate within any given interaction between two people and shape the outcomes of that interaction: the effect that the individual is having on their own outcome; the effect that the partner is having on the individual's outcome; and the effect of the relationship

between those two people (Cook & Dreyer, 1984; Kenny, 1996). In dyadic research, these three effects are commonly referred to as actor, partner and relational or dyadic effects, respectively. It is the relational factor that captures the interdependence between the two people and allows us to understand *how* the context of the relationship goes on to affect the way that the dyad partners affect each other (i.e., an adolescent can shape their own outcome by how they interact with their parent) (Cook & Dreyer, 1984).

The notion of interdependence is directly applicable to the practice of reminiscing. Reminiscing conversations occur between two people (parent and adolescent) who are an interdependent system, and therefore the contributions of each person to the conversation are going to be a product of the reciprocal processes occurring within the dyad. Moreover, the reminiscing context often (although not always) asks members of the dyad to reflect on a *shared* memory that both members of the dyad have experienced together. The joint aspect of reminiscing discussions makes them an especially interdependent context: it requires the individual to reflect on not only details of the memory that pertains to their own experience (e.g., the emotions they experienced) but also the other person's (e.g., the emotions the partner experienced) as well as the shared experience in the context of their relationship with the other person (e.g., how the individual played a role in making their partner, and themselves, feel the way they did).

Indeed, seminal work on reminiscing and children's autobiographical memory development has demonstrated the bidirectional nature of reminiscing conversations between parents and young children. Reese et al. (1993) found bidirectional effects between maternal elaborations and children's responding at the end of preschool years. That is, this longitudinal study demonstrated that maternal elaborations during early preschool years were correlated with children's elaborations at later ages. In turn, as children became more capable of contributing more elaborative responses, highly elaborative mothers became more elaborative in response to their children's changing developmental needs. Similarly, Farrant and Reese (2000) found bidirectional effects between mothers and their young children in that even at the age of nineteen-months, a child's interest or participation in reminiscing conversations with their mothers was associated with concurrent and longitudinal use of maternal elaborations.

While both studies conceptually illustrated how mothers and their children influence each other's responding across the early years, the studies did not adopt a full dyadic approach with respect to data analysis. Thus, for example, conclusions cannot be drawn regarding *how* the mother and child are affecting one another (i.e., did maternal reminiscing qualities predict the child's outcomes, over and above the effects of the child's own reminiscing qualities?). In

order to fully capture the bidirectional associations, a dyadic statistical approach would need to be adopted that controls for the interdependence between dyad members while simultaneously modelling individual and partner effects (Cook & Kenny, 2005; Kenny, 1996). Therefore, the current research aimed to extend research investigating parent-child reminiscing as a context of socialisation for socioemotional development, by adopting a full interdependence approach. To do so, we considered how the individual, parent, and dyadic qualities of parent-adolescent reminiscing function to predict adolescent rumination and internalising symptoms (anxiety and depression), both cross-sectionally and longitudinally. To theoretically guide our research, we integrated research investigating the qualities of reminiscing conversations that are related to socioemotional development in childhood, with research examining factors related to adolescent emotion socialisation.

Conceptual Models, Research Questions and Hypotheses

The research reviewed so far has provided robust evidence for the role of elaborative, emotion-rich, and supportive conversations about past events on adaptive socioemotional outcomes across child development amongst individualistic cultures. Less is known, however, about the dyadic nature of reminiscing conversations in the context of parent-adolescent relationships, and the pathways between qualities of reminiscing conversations and youth rumination and internalising symptoms over time. Thus, the two main gaps in the reminiscing literature that became the focus of the current research were: 1) understanding the nature of parent-adolescent reminiscing and how qualities of parent-adolescent reminiscing related to youth rumination and internalising symptoms, both cross-sectionally and longitudinally; 2) adopting a dyadic methodological approach to studying reminiscing qualities and informing theories. The proposed research aimed to empirically examine two conceptual models of mother-adolescent reminiscing and youth rumination, anxiety, and depression. Figure 3.1 represents a cross-sectional model and hypotheses was tested in Study 2a, and Figure 3.2 represents the longitudinal model that was tested in Study 2b.

Study 2a

The first study (Figure 3.1) aimed to address two main research questions at the cross-sectional level: how do mothers and adolescents manage emotions during a conversation about a past conflict event? How do adolescent and maternal reminiscing qualities relate to adolescent and maternal levels of rumination, anxiety and depression? We hypothesised that: (a) higher levels of maternal and adolescent rumination, anxiety, and depression would be associated with greater maternal and adolescent use of unsupportive reminiscing qualities, characterised by strategies that endorsed avoidance/disengagement, superficial problem-solving, repetitive

problem-engagement, self-focused orientation (e.g., low levels of collaboration, more invalidations, lack of resolution), imbalanced expression of emotions (i.e., high or low levels of emotion talk and expression). Conversely, we hypothesised that (b) lower levels of maternal and adolescent rumination, anxiety, and depression would be related to greater use of supportive reminiscing qualities used by mothers and adolescents, characterised by collaboration (e.g., elaborations, turn-taking), active problem-solving (e.g., validations, resolutions; reframing and reappraisals) and balanced emotion expression (e.g., emotion talk including causes and consequences of emotions; labelling of emotion states and behaviours). Note that the cross paths modelled in Figure 3.1 represent the dyadic relationships and reflect the extent to which adolescents influence their mothers and vice-versa.

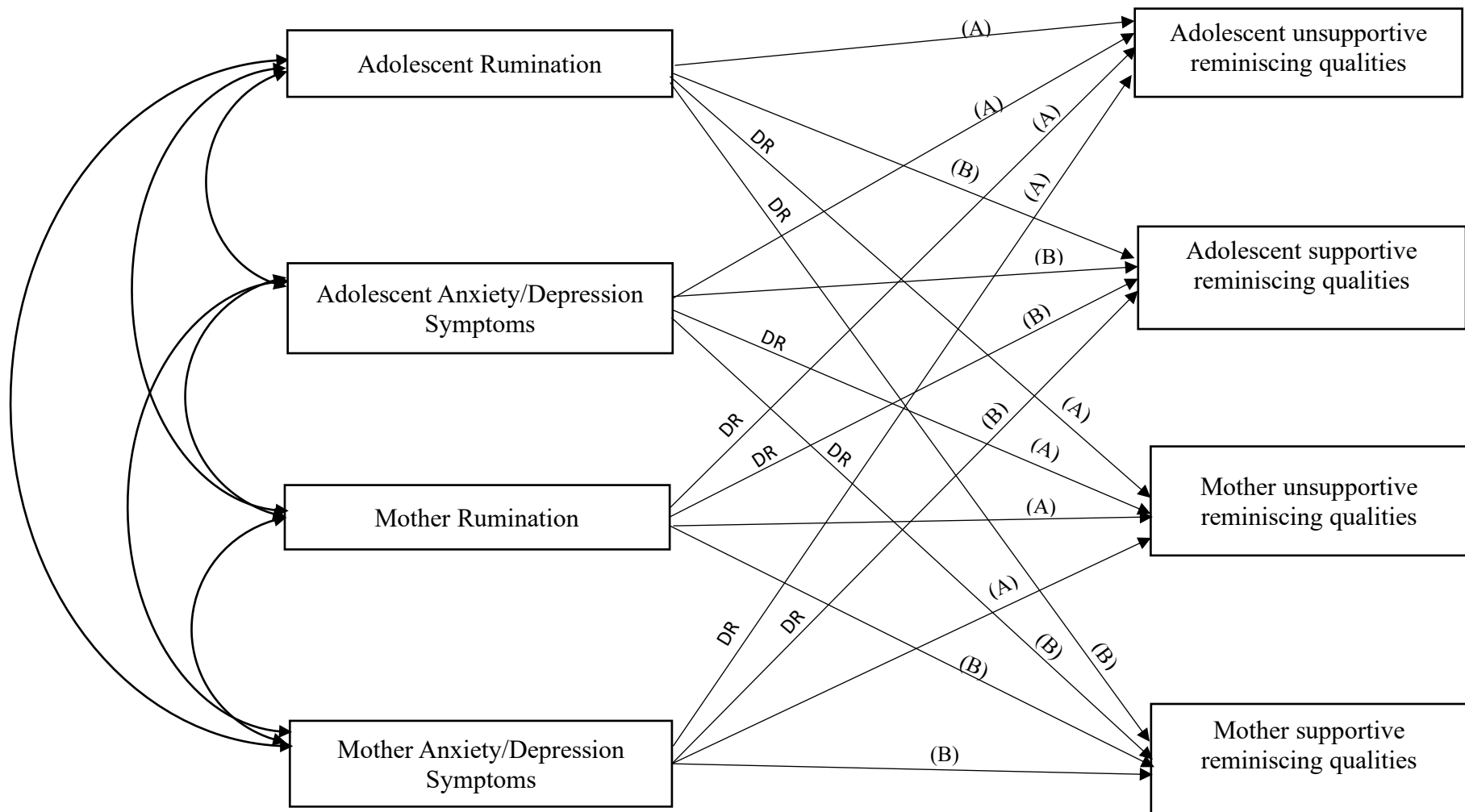


Figure 3.1. Conceptual and empirical model representing cross-sectional relationships between characteristics that the mother and adolescent bring into the conversations, respectively and mother-adolescent conversational qualities. Anxiety/depression symptoms refer to depression and anxiety symptoms, respectively, but are presented in the model as “anxiety/depression symptoms” for simplicity. The curved arrows represent the covariance between variables. (A) and (B) = Study 2a hypothesis 1a and hypothesis 1b, respectively. DR = Dyadic relationship, represented by the cross-paths that indicate partner effects.

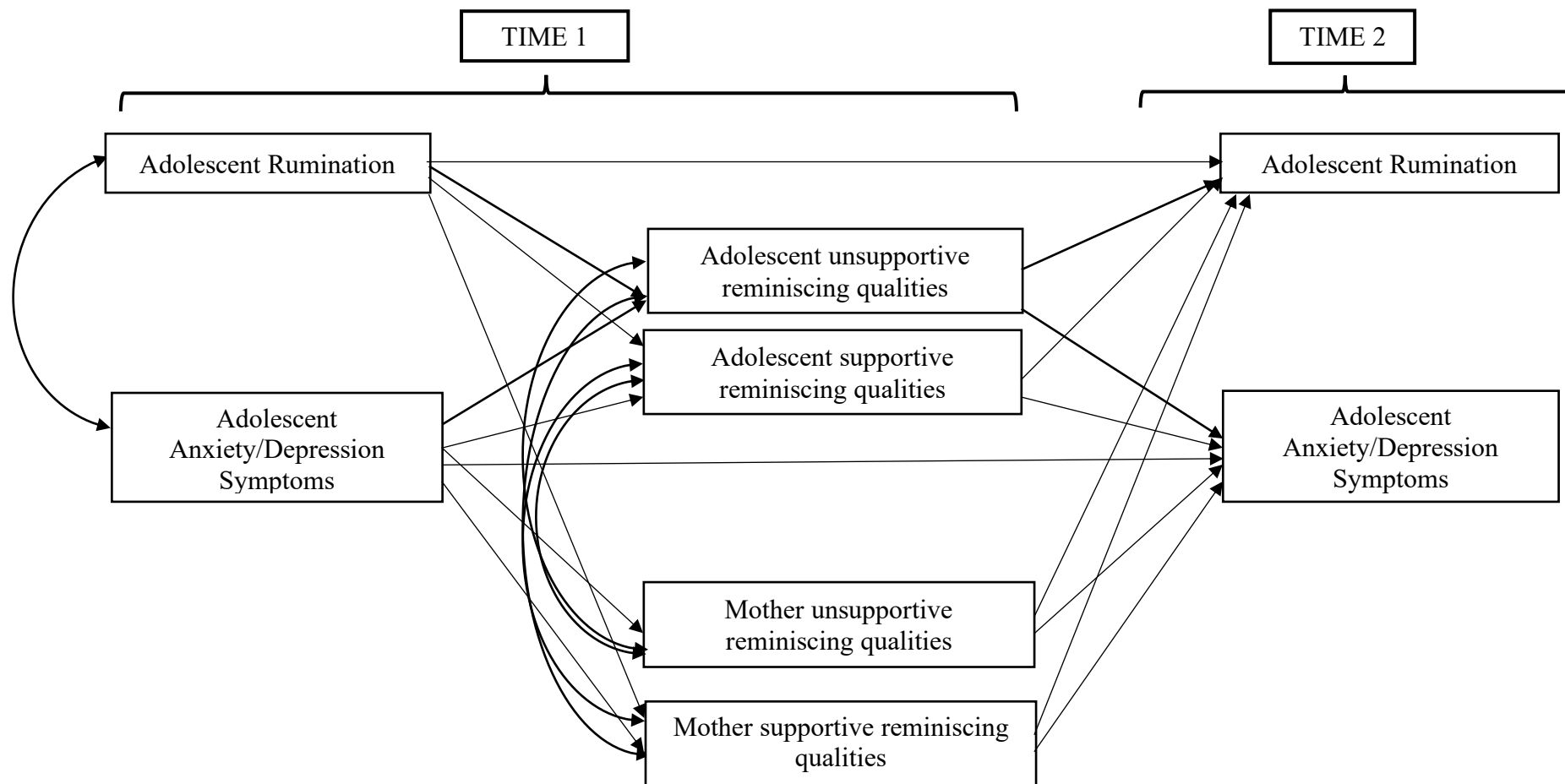


Figure 3.2. A conceptual longitudinal lagged model representing the effects of adolescent and mother conversational qualities on adolescent psychopathology (rumination, anxiety and depression) symptoms prospectively. This conceptual model will be tested in Study 2b.

Anxiety/depression symptoms refer to depression and anxiety symptoms, respectively, but are presented in the model as “anxiety/depression symptoms” for simplicity. The double-headed arrows represent the covariance between variables.

Study 2a: Method

Participants

Participants were drawn from a longitudinal research project investigating the relationship between autobiographical memory and the development of psychopathology amongst New Zealand youth across time (Gutenbrunner, Salmon, & Jose, 2018, 2019). A subgroup of adolescents and their mothers were recruited from this community sample to participate in the current study. Recruitment selection adolescent age (selecting participants in the middle-adolescence age range). The final sample consisted of 68 mother-adolescent dyads, however data from 67 mother-adolescent dyads are used in the current analyses as one dyad's conversation was inaudible and therefore, they were excluded. The adolescents were between the ages of 13 and 16 years old ($M = 15.30$ years, $SD = 0.62$), and 58.8% of the adolescent sample were females. 88.2% of the adolescents identified as European New Zealand/Pakeha, 5.9% Asian, 2.9% Māori, 1.5% Pacific People, and 1.5% as other. The mothers were aged between 34 and 58 years old ($M = 46.19$ years, $SD = 4.72$), of which 86.8% of the sample identified as European New Zealand/Pakeha, 7.4% Asian, 2.9% Pacific People, 1.5% Māori and 1.5% Middle East/Latin American/African. One participant did not report their age. The families were from medium to high socioeconomic backgrounds, reflected in New Zealand school decile rankings ranging between 6 to 10 ($M = 8.2$, $SD = 1.38$). This research was approved by the School of Psychology Human Ethics Committee, under delegated authority to the Victoria University of Wellington Ethics Committee.

Procedure and Materials

Data collection involved standardised measures of psychological functioning and, following previous reminiscing studies (see Fivush & Sales, 2006), structured interviews with the participants (mother-adolescent dyads) to obtain narratives about past, emotion-laden, events that they had experienced together. Two trained female research assistants visited participants in their homes and conducted the interviews. Participants has previously been contacted by telephone to seek their participation, and they provided written consent at time of data collection. Both during telephone contact and at the point of data collection, participants were told that the purpose of the research was to understand how mothers and young people remember and talk about events in their life. Data collection sessions lasted between 1.5 and 2.5 hours. The procedure of the study was split into two components: the reminiscing conversation task and the completion of psychological measures.

Reminiscing conversation task. The Narrative Elicitation Script (NES) is a structured interview designed to guide a parent and adolescent through selecting, and openly discussing, either shared or individual narratives of past events (see Fivush & Sales, 2006).

As an introduction to the task, participants (mother and adolescent) were given the following instructions, “I would like you both to think of a *conflict* that you experienced *together* in the last two years. Thinking back over the last two years, try to remember a specific shared experience in which you *both* felt really negative emotions about a disagreement you had, a time when you might have argued or had a dispute over something. It should be something that stands out in both your memories as a negative scene or moment in your lives”. Once the memory was selected, the pair were instructed to discuss the event with each other as if it had been brought up in conversation and they were remembering it together. The conversations were recorded using voice recorders and lasted on average 5 minutes ($SD = 1.92$).

Following the shared reminiscing event task, the mother and adolescent were each accompanied by one researcher into separate rooms where they independently completed a set of self-report measures that assessed their psychological functioning. The questionnaires were completed on an iPad using the online survey tool, Qualtrics. At the end of the session participants were provided a debriefing letter and a fifty-dollar store voucher to thank them for their time and participation.

Self-Report Measures of Psychopathology

Adolescent depression. The Children’s Depression Inventory - Second Edition: Short Form (CDI-2; Kovacs, 1992) is a brief self-report measure that is designed to screen for cognitive, behavioural and emotional symptoms associated with depression in children and adolescents aged between 7 and 17 years. The short-form questionnaire has 12 items, each item contains three sentences. The respondent is required to choose what sentence best reflects how they have been feeling over the past two weeks. Each item of the CDI-2 is scored on a 3-point scale. For example, “2 = Nothing will ever work out for me; 1 = I am not sure if things will work out for me, 0 = Things will work out for me”. Higher overall scores on the CDI-2 indicate elevated levels of depressive symptomology (Cronbach’s $\alpha = .762$).

Adolescent anxiety. The Revised Children’s Manifest Anxiety Scale- Second Edition: Short Form (RCMAS-2; Reynolds & Richmond, 2008) is a self-report measure that assesses the level and nature of anxiety experienced by children and adolescents between the ages of 6 and 19 years. The questionnaire is comprised of 15 items which correspond to three areas of symptomology: social anxiety, physiological anxiety and worry. The respondent is required to answer either ‘yes’ or ‘no’ for each item. An example item from the RCMAS-2 is, ‘Often I feel

sick in my stomach (YES/NO)’. Higher overall scores on the RCMAS-2 indicate greater number of anxiety related difficulties (Cronbach’s $\alpha = .795$).

Adolescent and maternal rumination. The Repetitive Negative Thinking Questionnaire (RTQ-10; McEvoy et al., 2019), administered to both the mother and adolescent, respectively, is a trans-diagnostic measure of repetitive negative thinking in adults and youth that was validated using youth data from the longitudinal study. The self-report questionnaire consists of 10 items that assess across three types of repetitive thinking: worry, rumination, and post-event processing. For example, “I have thoughts or images about all my shortcomings, failings, faults and mistakes”. Each item is rated on a 5-point Likert scale ranging from 1 = not true at all, 3 = somewhat true, to 5 = very true. The respondent answers each item on the basis of how they would typically respond when they are feeling upset or distressed. In the current study, higher total scores on the RTQ-10 represent greater levels of repetitive negative thinking (McEvoy et al., 2019) (Cronbach’s $\alpha = .908$ [adolescent]; Cronbach’s $\alpha = .907$ [mother]).

Maternal psychological functioning. The Depression, Anxiety and Stress Scale (DASS-21; Lovibond & Lovibond, 1996) is a self-report measure that screen for symptoms of depression, anxiety and stress. Seven items assess depression (e.g., “I couldn’t seem to experience any positive feeling at all”; $\alpha = .871$), 7 items assess anxiety (e.g., “I was aware of dryness of my mouth”; $\alpha = .695$), and 7 items assess stress (e.g., “I found it hard to wind down”; $\alpha = .813$). Participants rated each item referring to the past week (0 = *did not apply to me at all*; 1 = *applied to me to some degree, or some of the time*; 2 = *applied to me a considerable degree, or good part of time*; 3 = *applied to me very much, or most of the time*). Items were summed so that higher scores indicate elevated levels. For the purposes of the current research, only levels of maternal depression and anxiety were used in analyses.

Dyadic Coding

Coding procedure. All conversations were transcribed, de-identified and checked for accuracy. The conversations were coded by a primary coder and reliability-checked by a secondary coder who was trained in the coding scheme, and blind to the study hypotheses as well as the age and gender of participants. To assess reliability, two coders independently coded 25% of the sample (17 conversations), resolving disagreements when they occurred. Intraclass Correlations (ICCs) were calculated for reliability and are reported below with the descriptions of the codes. ICCs for parents and adolescents were aggregated to provide a single, average reliability score for each code. Overall, all codes reflected good to excellent internal consistency (Syed & Nelson, 2015).

The dyadic observational coding scheme, developed for use with adult couples and theoretically grounded in the emotion regulation and support-seeking literature, was adopted to code the reminiscing conversations (Low, Overall, Cross & Henderson, 2018). The scheme was chosen because adopts a format of coding which is designed to capture the interdependent factors of the discussion, in addition to individual and partner effects.

Maternal and adolescent emotion management. Both mothers and adolescents' transcripts were coded for qualities of emotion-related reminiscing discussions using an adapted version of the Coding for Conflict Interactions (see Low et al., 2018) coding scheme, as the original coding scheme was developed for conflict interactions between adult couples (see Appendix A for the full dyadic coding scheme). Adaptation was theoretically guided by well-established and reliable coding schemes in the reminiscing literature (e.g., Fivush & Sales, 2006). Following coding procedures outlined by Low et al. (2018), the conversations were coded along three strategies of emotion management (A, B, C) which were each assessed through three dimensions or sub-strategies (engagement in discussion, approach to problem solving, and expression of emotion). Each sub-strategy, and the overall strategy, was rated independently on a 7-point scale (1-2 = *low*, 3-5 = *moderate*, 6-7 = *high*) which captured the individual's level of endorsement (including intensity, frequency and duration) of the conversational qualities. Each person in the dyad (mother and adolescent) was coded separately (counterbalanced) and scored a global rating for each strategy (global and sub-strategies). Descriptions of the codes are presented in Table 2.1 (See Study 1 Methods section). Note that the characteristics of the strategies and dimensions were scored on a continuum, and not all characteristics were required to be present in order to fully capture the strategy or dimension.

Study 2a: Cross-sectional Results

Here we report analyses on the cross-sectional associations between qualities of parent-adolescent reminiscing conversations and youth rumination and internalising symptoms in two parts. First, we present descriptive statistics for the coded reminiscing qualities with the aim of understanding how mothers and adolescents manage emotions during a reminiscing conversation about a past negative event (*Research Question 1: how do mothers and adolescents manage emotions during a conversation about a past conflict event?*). Second, we present dyadic models and analyses that test the cross-sectional associations between mothers' and adolescents' rumination and internalising symptoms, and qualities of the reminiscing conversation (*Research Question 2: how do adolescent and maternal reminiscing qualities relate to adolescent and maternal levels of rumination, anxiety, and depression?*).

Descriptive Statistics

Tables 3.1 and 3.2 present the means, standard deviations and correlations amongst all measures: reminiscing qualities (strategies A, B and C), depression, anxiety, and rumination for mothers and adolescents. On average, the levels of different reminiscing qualities (assessed by objective coders) were comparable across parents and adolescents: both parents and adolescents tended to use higher levels of collaborative, problem-solving orientated and balanced emotion expression (strategy C) during discussions of a past conflict event. In contrast, both mothers and adolescents tended to engage in low levels of conversational qualities characterised under avoidant/disengaged (strategy A) and repetitive (strategy B) qualities. In terms of levels of depression, anxiety, and rumination, mothers and adolescents both presented within the low range of total anxiety and depressive symptoms and self-reported within the average range for rumination (Table 3.1). As expected, there were strong correlations between the three self-report measures of anxiety, depression, and rumination (Kessler et al., 2005).

The current study aimed to identify the unique qualities of reminiscing conversations that were associated with internalising problems, therefore we examined the correlations between rumination, anxiety, and depression to identify the most suitable measures of psychopathology for analyses. As shown in the correlation matrix (Table 3.2) depression and anxiety ($r = .624$ for adolescents and $r = .607$ for mothers) had high levels of statistical overlap that would create difficulties in reliably determining their effects when simultaneously included in one model. Preliminary analyses showed that depression presented as a weak predictor of the relationships with reminiscing qualities and did not contribute any additional significant relationships to the model when included alongside anxiety and rumination.

Accordingly, depression was not considered in subsequent analyses and *rumination* and *anxiety* were selected as our unique measures of internalising problems that are reported in the analyses. Supplementary Tables (see Appendix C Tables C4, C5, C6, C7) that included all three measures (rumination, anxiety, and depression) simultaneously, are presented in the supplementary materials.

Table 3.1. *Mother and Adolescent Means and Standard Deviations of All Measures Across Study 2a and 2b (Time 1 and 2).*

	Time 1				Time 2	
	Adolescent		Mother		Adolescent	
<i>Reminiscing qualities (Observer-Coded)</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
<i>Strategy A and Subcomponents</i>						
Strategy A (General Score)	1.93	1.61	1.31	0.82	-	-
Avoidant/disengaged	1.87	1.63	1.19	0.68	-	-
Superficial	2.04	1.61	1.46	0.91	-	-
Hypo-emotion expression	1.96	1.49	1.43	0.91	-	-
<i>Strategy B and Subcomponents</i>						
Strategy B (General Score)	1.55	1.26	1.76	1.47	-	-
Repetitive	1.58	1.36	1.72	1.46	-	-
Self-focused	2.16	1.57	2.16	1.71	-	-
Hyper-emotion expression	1.25	0.77	1.51	1.17	-	-
<i>Strategy C and Subcomponents</i>						
Strategy C (General Score)	3.28	1.71	3.93	1.72	-	-
Collaborative	3.37	1.61	3.94	1.67	-	-
Approach	3.01	1.88	3.99	1.98	-	-
Balanced emotion expression	3.36	1.73	3.82	1.91	-	-
<i>Self-reported measures of psychopathology</i>						
Anxiety	3.63	2.70	1.54	2.04	3.85	2.70
Rumination	26.97	8.35	23.31	7.78	30.15	8.72
Depression	3.76	2.90	2.30	3.04	5.73	3.52

Note. General scores of strategies A, B and C represent the global rating of the strategy and are scored independent of the sub-strategies (i.e., the global strategy score is not the combined average of the sub-strategy scores. All strategies were scored on 7-point scale. Adolescent anxiety was assessed on a 2-point scale, with total scores ranging between 0-9 at Time 1 and 0-10 at Time 2. Adolescent depression was measured on a 3-point scale, with total depression scores ranging between 0-15 at Time 1 and 1-16 at Time 2. Adolescent and maternal rumination were scored on a 5-point scale. Adolescent rumination scores at Time 1 ranged between 10-45 and 12-48 at Time 2; maternal rumination scores ranged between 10-47. Maternal depression and anxiety were measured on a 4-point scale, with maternal depression scores ranging between 0-16 and maternal anxiety scores ranging between 0-13.

Table 3.2. *Correlation Matrix, with Means and Standard Deviations Across Study 2a and 2b Primary Measures: Time One and Two Adolescent Anxiety, Rumination and Depression; and Time One Reminiscing Variables (Global and Sub-Strategies).*

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
<i>Time One variables</i>																			
1	Strategy A (General score)	.225	.978**	.944**	.889**	-.122	-.160	-.127	-.058	-.647**	-.626**	-.546**	-.655**	.068	.025	-.048	.009	.084	-.151
2	Avoidant/disengaged	.868**	.229	.908**	.900**	-.067	-.101	-.086	-.033	-.642**	-.625**	-.533**	-.648**	.111	.057	-.036	.020	.112	-.173
3	Superficial	.858**	.710**	.400**	.866**	-.192	-.220	-.219	-.120	-.642**	-.620**	-.557**	-.659**	.070	.049	-.084	.021	.124	-.146
4	Hypo-emotion expression	.812**	.574**	.707**	.328**	-.027	-.032	-.042	-.083	-.647**	-.623**	-.540**	-.698**	.134	.146	.034	.026	.147	-.084
5	Strategy B (General score)	.051	.017	.084	.011	.253*	.959**	.895**	.811**	-.397**	-.454**	-.343**	-.322**	.173	.151	.219	.051	.159	.211
6	Repetitive	.037	-.035	.054	.037	.962**	.221	.839**	.714**	-.351**	-.411**	-.294*	-.270*	.174	.138	.218	.055	.156	.201
7	Self-focused	.092	.063	.106	.061	.927**	.865**	.198	.707**	-.361**	-.419**	-.360**	-.256*	.188	.115	.148	.117	.168	.182
8	Hyper-emotion expression	.021	-.011	.018	-.081	.917**	.879**	.826**	.259*	-.310*	-.360**	-.266*	-.299*	.109	.149	.238	.042	.158	.201
9	Strategy C (General score)	-.413**	-.351**	-.462**	-.426**	-.656**	-.605**	-.713**	-.538**	.667**	.954**	.940**	.922**	-.142	-.091	-.010	-.022	-.092	.141
10	Collaborative	-.374**	-.310*	-.411**	-.363**	-.637**	-.590**	-.692**	-.557**	.950**	.639**	.883**	.869**	-.165	-.117	.009	-.035	-.156	.132
11	Approach	-.407**	-.347**	-.450**	-.401**	-.601**	-.545**	-.661**	-.492**	.953**	.912**	.668**	.866**	-.119	-.079	-.035	-.026	-.083	.145
12	Balanced emotion expression	-.419**	-.312*	-.484**	-.523**	-.562**	-.512**	-.618**	-.460**	.931**	.906**	.890**	.668**	-.143	-.166	-.134	-.011	-.131	.034
13	Depression	-.172	-.109	-.188	-.168	.169	.128	.224	.242*	-.121	-.161	-.082	-.103	.306*	.624**	.450**	.666**	.575**	.333**
14	Anxiety	-.048	-.076	-.005	.020	.130	.092	.165	.144	-.157	-.204	-.084	-.252*	.607**	.229	.585**	.424**	.735**	.343**
15	Rumination	-.236	-.215	-.190	-.251*	.036	.068	.038	.100	.133	.075	.110	.090	.463**	.423**	.318**	.212	.344**	.530**
<i>Time Two variables</i>																			
16	Adolescent Depression	-.118	-.155	-.136	-.058	-.057	-.009	-.076	-.077	.033	.013	.035	-.022	.299*	.218	.250*	-	.650**	.458**
17	Adolescent Anxiety	.124	.099	.041	.206	-.099	-.094	-.131	-.153	-.009	.003	-.012	-.095	.103	.221	.039	-	-	.485**
18	Adolescent Rumination	-.028	-.130	-.116	.091	-.110	-.075	-.176	-.098	.177	.192	.152	.094	.000	.000	.017	-	-	-

Note. For Study 2a (Time 1) the bold figures presented along the diagonal represent correlations between dyad members. Correlations between maternal variables are presented below the diagonal line. Correlations between adolescent variables are presented above the diagonal line. Study 2a $N = 67$ dyads; Study 2b $N = 67$ dyads. * Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

Hypothesis One: Higher levels maternal and adolescent anxiety, rumination will be (A) positively associated with maternal and adolescent unsupportive reminiscing qualities indexed by strategy A and strategy B; and (B) lower levels maternal and adolescent anxiety, rumination will be associated with greater maternal and adolescent supportive reminiscing qualities indexed by strategy C.

The first set of analyses hypotheses was tested using an Actor-Partner Independence Model (APIM) in AMOS (SPSS Version 24) following recommendations by Kenny et al. (2006). The APIM provides an analytical approach to testing dyadic relationships that inherently have interdependent data. The model accounts for three key dyadic processes: (1) the extent to which an individual's levels of rumination and anxiety contribute to their own conversational qualities, (2) the extent to which the conversational *partners'* rumination and anxiety symptoms contribute to an individuals' conversational qualities; while (3) accounting for the shared variance between adolescents' and mothers' rumination, anxiety, and conversational qualities. In doing so, our analyses investigate the unique effect of both the individual's and conversational partner's effect on one another's outcomes.

In the cross-sectional models maternal and adolescent levels of anxiety and rumination were entered as the independent variables, and maternal and adolescent reminiscing conversational qualities as dependent variables. A two-fold approach was taken to test the relationship stipulated in Figure 3.1. First, we tested levels of maternal and adolescent anxiety and rumination and their relationships with reminiscing conversational qualities at the global strategy level (i.e., strategies A, B, C). Second, we ran a set of confirmatory analyses between maternal and adolescent anxiety and rumination and the respective sub-strategies of the global strategies. Monte Carlo bootstrapping was applied (Newton & Geyer, 1994) at the rate of 2000 samples. A model of results, presenting actor and partner effects, are presented in Figure 3.3. First, results from the model did not identify any significant actor effects in which adolescents' or mothers' anxiety or rumination were uniquely associated with their own use of conversational qualities at the global level. However, there were significant effects across adolescents and mothers. Specifically, in support of Hypothesis 1a, higher maternal anxiety was associated with an adolescent's greater use of reminiscing qualities that promoted avoidant/disengagement (strategy A) by adolescents ($\beta = .401$, 95% CI = [.147, .650], $t = 3.081$, $p = 0.02$). In contrast to Hypothesis 1a, however, higher adolescent anxiety was associated with overall lower use of qualities characterised by repetitive problem engagement and self-focused orientation (strategy B) by mothers ($\beta = -.322$, 95% CI = [-.602, -.020], $t = -2.156$, $p = 0.03$). That is, adolescent anxiety was associated with mothers engaging in lower levels of qualities

that promoted a self-focused orientation and heightened focus on the problem and emotions experienced during the past event (strategy B). The bidirectional nature of the effects, represented by the partner effects, indicate that these dyadic associations were present over and above any associations between individuals' own levels of anxiety and reminiscing qualities. Hypothesis 1a was not supported for rumination - there were no significant relationships found between maternal or adolescent rumination and unsupportive reminiscing qualities at the global strategy level (see Figure 3.3). In terms of Hypothesis 1b, that predicted a relationship between lower levels of maternal and adolescent rumination and anxiety, and greater maternal and adolescent use of supportive reminiscing qualities (as indexed by strategy C), the findings did not support this prediction. There were no significant associations between maternal or adolescent levels of rumination or anxiety with maternal or adolescent reminiscing qualities that endorsed collaboration, active problem-solving and balanced emotion talk at the global strategy level (see Figure 3.3).

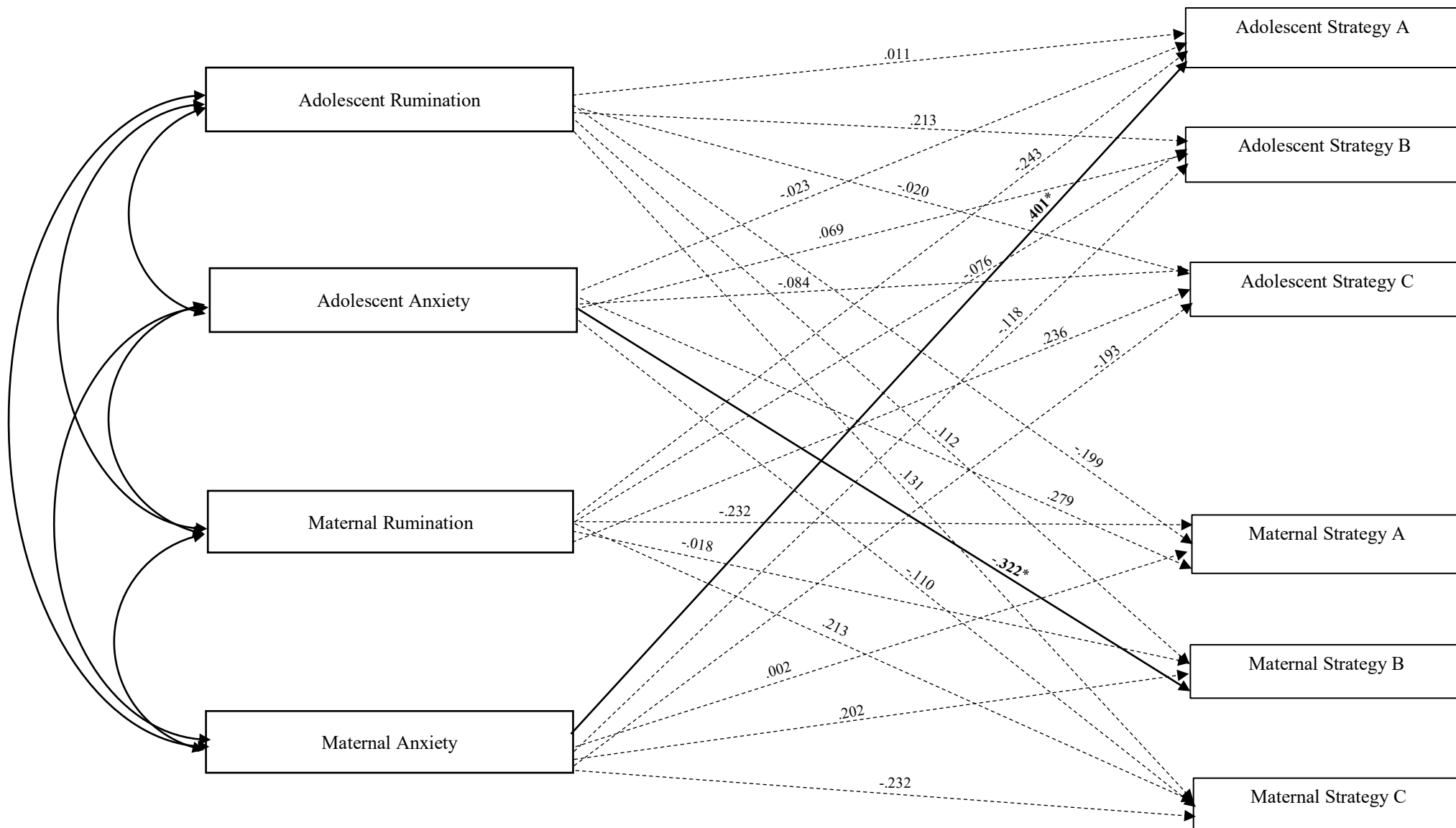


Figure 3.3. SEM model presenting standardized regression path coefficients for actor and partner effects. The independent variables are adolescent and maternal levels of anxiety and rumination; the dependent variables are adolescent and maternal reminiscing qualities (global strategies A, B and C). *Note.* The dashed lines represent non-significant effects and solid lines represent significant effects ($p < .05$).

Second, we next investigated the research question further by examining the extent to which *specific* reminiscing qualities within each global strategy were associated with maternal and adolescent rumination and anxiety. We reran the models described above but with the sub-strategies of the respective global strategies as the dependent variables. That is, the three sub-strategies associated with each global strategy were run simultaneously in models with anxiety and rumination. As reported in full in Supplementary Tables (see Appendix C Tables C1, C2, C3) these follow-up analyses confirmed the significant dyadic effects across adolescents and mothers. Higher maternal anxiety was significantly associated with greater adolescent use of avoidant/disengagement ($\beta = .397$, 95% CI = [.128, .641], $t = 3.043$, $p = .006$), superficial problem-solving ($\beta = .341$, 95% CI = [.077, .591], $t = 2.600$, $p = .011$) and hypo-emotion discussion qualities ($\beta = .346$, 95% CI = [.066, .582], $t = 2.657$, $p = .019$). Higher adolescent anxiety was significantly negatively related to specific maternal reminiscing qualities of self-focused problem-solving ($\beta = -.326$, 95% CI = [-.600, -.022], $t = -2.199$, $p = .038$) and hyper-emotion discussion ($\beta = -.411$, 95% CI = [-.667, -.099], $t = -2.823$, $p = .006$). These findings are consistent with the results found at the global strategy level by indicating that higher maternal anxiety is related to greater use of the specific reminiscing qualities of adolescent disengagement from the discussion, superficial problem-solving, and a lack of emotion discussion. Moreover, higher adolescent anxiety was related to mothers engaging in less restating of the problem, self-focused orientation including invalidation; and heightened focus on emotion related details of the event. Again, no results at the sub strategy level provided support for Hypothesis 1b.

In these Supplementary Tables (see Appendix C Tables C1, C2, C3), further significant associations emerged between adolescents and mothers at the sub-strategy level, which provided further support for Hypothesis 1a. Notably, higher adolescent anxiety was positively related to greater maternal use of avoidant/disengagement ($\beta = .338$, 95% CI = [.037, .624], $t = 2.312$, $p = .027$) and use of hypo-emotion discussion qualities ($\beta = .314$, 95% CI = [.015, .593], $t = 2.169$, $p = .040$). In contrast to Hypothesis 1a, higher maternal rumination was negatively related to the mother's own ($\beta = -.307$, 95% CI = [-.559, -.035], $t = -2.315$, $p = .027$) and adolescents' ($\beta = -.287$, 95% CI = [-.535, -.018], $t = -2.148$, $p = .037$) hypo-emotion qualities. Note, however, that this finding in relation to maternal rumination should be considered tentatively because it occurred only at the sub-strategy level and in relation to a single quality (hypo-emotion), so the finding could be an anomaly.

Other than the finding for rumination, the results indicate that, overall, at the sub strategy level, similar patterns of findings emerge to those found for adolescent and maternal

anxiety at the global strategy level. The consistency between global and sub-strategy results highlight how the global score is not driven by a single marker, but the distinct qualities of the strategies are *all* driving the effect. In addition, the analyses at the sub-strategy level are useful for clarifying which specific qualities during parent-adolescent reminiscing are important.

In summary, the major cross-sectional findings of Study 2a were as follows. Hypothesis 1a, that higher levels of maternal and adolescent anxiety and rumination would be positively associated with unsupportive reminiscing qualities indexed by strategy A and strategy B, received partial support. In support of this hypothesis, we found that maternal anxiety was positively associated with adolescent use of unsupportive strategies characterised by avoidant/disengagement, superficial problem-solving and low levels of emotion expression (strategy A) during parent-adolescent reminiscing discussions about a past conflict event. There was further support for Hypothesis 1a at the sub-strategy level, where greater adolescent anxiety was related to a greater maternal avoidant/disengagement and lower levels of emotion discussion. In the opposite direction to Hypothesis 1a, higher levels of adolescent anxiety were negatively related to a mother's engagement in specific unsupportive qualities characterised by self-focused orientation and a heightened focus on emotions during reminiscing. Failing to support Hypothesis 1a, there were no significant associations between adolescent rumination and either maternal or adolescent reminiscing qualities. Moreover, Hypothesis 1b, that predicted lower levels of maternal and adolescent anxiety, rumination would be associated with greater unsupportive reminiscing qualities indexed by strategy C, was not supported at either the overall (global) or specific (sub-strategy) level.

Study 2a: Discussion

The first aim of Study 2a was to apply dyadic methods of coding and analyses to examine the way emotions are managed during conversations between parents and adolescents. The descriptive statistics provided insight into how mothers and adolescents managed their emotions while discussing a past conflict event (Research Question 1). Generally, mothers and adolescents utilised more collaborative qualities of reminiscing characterised by collaborative engagement between the pair (including the provision and eliciting of details), an active approach to problem-solving, and balanced discussion of emotions) compared to unsupportive qualities.

The second aim of Study 2a was to investigate the relationships between qualities of mother-adolescent reminiscing conversations and youth rumination and internalising symptoms. Dyadic analyses accounted for the effect of individuals' own psychopathology on their conversational strategies and tested the extent to which partner effects emerged. Findings

from Study 2a partially supported Hypothesis 1a: Higher levels of maternal anxiety were associated with adolescents' higher use of unsupportive conversational qualities of avoidance/disengagement, superficial problem-solving and lower levels of emotion expression. Opposing the prediction of Hypothesis 1a, however, higher levels of adolescent anxiety was related to mothers' *lower* use of the unsupportive conversational qualities of engaging in self-focused orientation and higher emotion expression. Furthermore, follow-up analyses confirmed an association between higher levels of adolescent anxiety and a mother's higher use of specific unsupportive reminiscing qualities including avoidant/disengagement and lower levels of emotion discussion. No significant relationships were found in support of Hypothesis 1b: there was no evidence that maternal or adolescent rumination or anxiety were related to either mothers' or adolescents' use of supportive reminiscing qualities.

Study 2b

One limitation of Study 2a was the cross-sectional methodology which cannot give evidence for the directionality of effects. In Study 2b, we conducted a one-year follow-up with the adolescents involved in the initial parent-adolescent reminiscing study to help disentangle the direction of the associations. We present time-lagged regression analyses that test whether maternal and adolescent reminiscing qualities account for residual change in adolescent psychopathology over time (see Figure 3.2 for conceptual model of Study 2b). Study 2b sought to answer Research Question 3: do parent-adolescent reminiscing conversational qualities predict youth rumination and internalising symptoms longitudinally? If so, what are the nature of the associations? Specifically, we tested the extent to which reminiscing conversational qualities predict residualised change in adolescents' rumination and anxiety twelve months later. We hypothesised that first, (a) higher levels of maternal and adolescent reminiscing unsupportive qualities characterised by avoidance/disengagement, superficial problem-solving, repetitive problem-engagement, self-focused orientation to problem-solving (e.g., low levels of collaboration, more invalidations, lack of resolution), and imbalanced expression of emotions (i.e., high or low levels of emotion expression) would predict increases in adolescent anxiety and rumination symptoms over time. Our second hypothesis (b) was that maternal and adolescent reminiscing characterised by higher levels of supportive qualities such as collaboration, active problem-solving and balanced emotion expression would be negatively related to increases in youth anxiety and rumination over time.

Study 2b Method

Participants

67 adolescents who took part in a parent-adolescent reminiscing study were contacted via email to participate in a follow-up study after a 12-month period. Two participants were unable to participate at the second time-point; therefore, the final sample for the present study came to 65 adolescents (60.6% females). The adolescents were between the ages of 14 and 17 years old ($M = 16.35$ years, $SD = 0.61$). 89.4% of participants self-reported identifying as European New Zealand/Pakeha, 3% Māori, 1.5% Pacific People and 6.1% Asian. Participants were from medium to high socioeconomic backgrounds, with New Zealand school decile rankings ranging between 6 and 10 ($M = 8.06$, $SD = 1.35$). Study 2b was approved by the School of Psychology Human Ethics Committee, under delegated authority to the Victoria University of Wellington Ethics Committee.

Procedure and Materials

Data collection sessions were held in groups, in a meeting room located on the grounds of the respective secondary schools that the participants attended. As this study was a part of a larger longitudinal research project investigating the relationship between youth memory and psychopathology over time (Gutenbrunner et al., 2018, 2019), the students were informed that the overarching purpose of the current study was to understand how young people remember specific events in their life and how this is related to youth well-being. Written consent was sought at the time of data collection, and written assent was provided by participants who were below the age of 16 years old. Participants were administered pen and paper versions of self-report measures assessing psychological functioning. These were the same measures they completed 12-months prior during the parent-child reminiscing study. Once completed, participants were debriefed and received a chocolate bar each to thank them for their time. Three participants were unable to attend the data collection sessions in person. Therefore, they completed online versions of the questionnaires using the online survey tool, Qualtrics. Mothers were not re interviewed at Time 2.

Self-Report Measures of Youth Psychopathology

Participants were asked to complete the same self-report measures of the psychopathology as at Time One (Study 2a). The observational coding of the reminiscing conversations completed at Time One was used in the longitudinal analyses of Study 2b.

Adolescent depression, anxiety and rumination: Participants completed the CDI-2 (Kovacs, 1992), RCMAAS-2 (Reynolds & Richmond, 2008) and RTQ-10 (McEvoy et al., 2019), as assessments of adolescent depression ($\alpha = .762$), anxiety ($\alpha = .795$) and rumination ($\alpha =$

.908), respectively, at Time Two. See Study 2a Method for full descriptions of self-report measures.

Study 2b: Longitudinal Results

Hypothesis Two: (A) Maternal and adolescent unsupportive reminiscing qualities indexed by strategy A and B reminiscing qualities would be associated with increases in adolescent anxiety and rumination over time; and (B) supportive reminiscing qualities indexed by strategy C would be negatively related to increases in adolescent anxiety and rumination.

We tested the longitudinal relationships between reminiscing qualities and adolescent psychopathology (Figure 3.2). The aim of these analyses was to examine whether reminiscing conversational qualities predicted changes in adolescent levels of anxiety and rumination 12-months later (after statistically controlling for Time One levels of adolescent anxiety and rumination). Our predictions were tested using two analytical approaches: First, time-lagged regression analyses were conducted to test predictions regarding change over time. Second, moderation analyses were performed to further investigate the nature of the longitudinal relationships, specifically the role that reminiscing qualities play on adolescent anxiety and rumination across time.

Treatment of missing data. Of the 67 mother-adolescent dyads collected at Time One, 65 adolescents completed self-report measures at Time Two. To account for this missing data, the full longitudinal dataset (Time One and Two combined) was tested for patterns of missingness to justify the imputation of missing values. The findings suggested only 3% of data were missing, with Little's MCAR score being non-significant, $\chi^2(7) = 4.86, p = .677$ therefore supporting that the data were missing at random. Imputation of the dataset was completed in SPSS v24 using estimated maximisation (EM) which estimated missing values for scaled outcome measures (anxiety, depression and rumination). The imputed dataset was used for all longitudinal analyses.

Time-lagged regression analyses. Means, standard deviations and correlations between maternal and adolescent observer-coded reminiscing qualities (Time One) and adolescent anxiety symptoms and rumination at Time One and follow-up are presented in Table 3.2. Lagged regression models were analysed using structural equation modelling software, AMOS, which allowed us to examine the longitudinal relationships specified in the model presented in Figure 3.2. In this model, maternal and adolescent reminiscing qualities (global strategies and sub-strategies) were the independent variables. As for Study 2a, global strategies were run simultaneously in a model (controlling for each other), followed by testing of the respective sub-strategies in a set of confirmatory analyses. Adolescent anxiety and rumination symptoms

at Time Two were treated as the dependent variable. Both outcome measures were run together in the model as presented in Figure 3.4 and 3.5. The results (see Figure 3.4 and 3.5) showed no significant relationships between maternal or adolescent reminiscing qualities and adolescent anxiety and rumination over time, at the global or specific sub-strategy level.

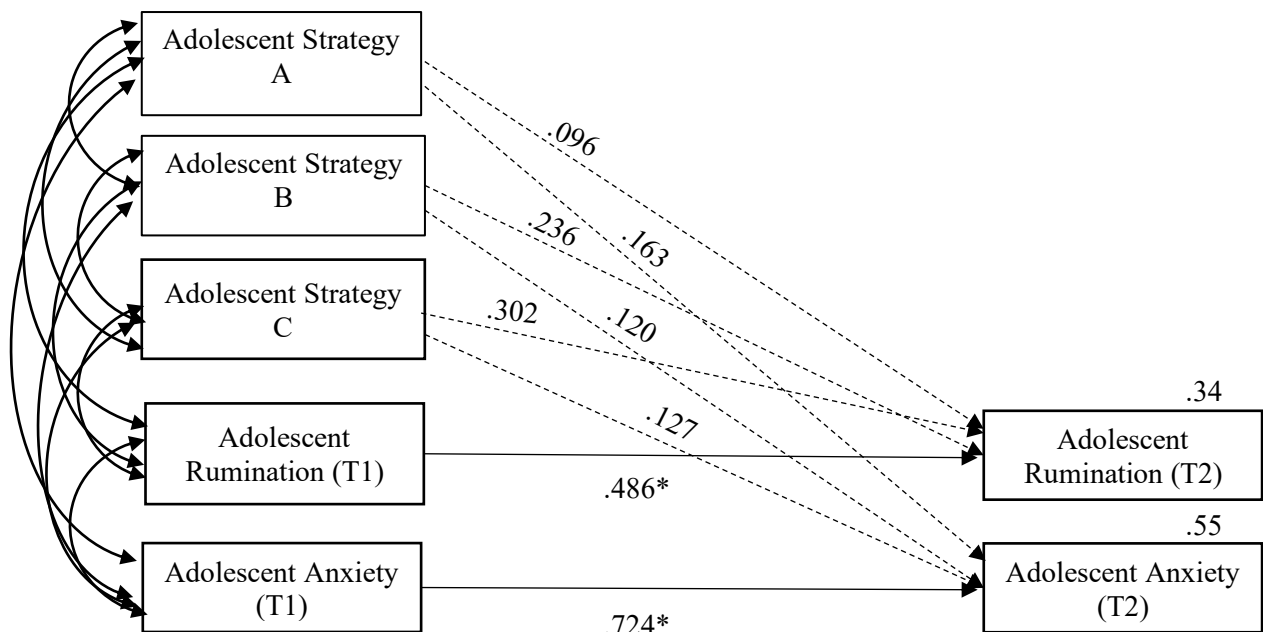


Figure 3.4. Lagged regression model representing change over time relationships between adolescent reminiscing qualities and Time 1 (T1) and 2 (T2) adolescent anxiety and rumination. IV = Time 1 adolescent anxiety and rumination; adolescent reminiscing qualities. DV = Time 2 adolescent anxiety and rumination. Dashed lines represent non-significant effects.

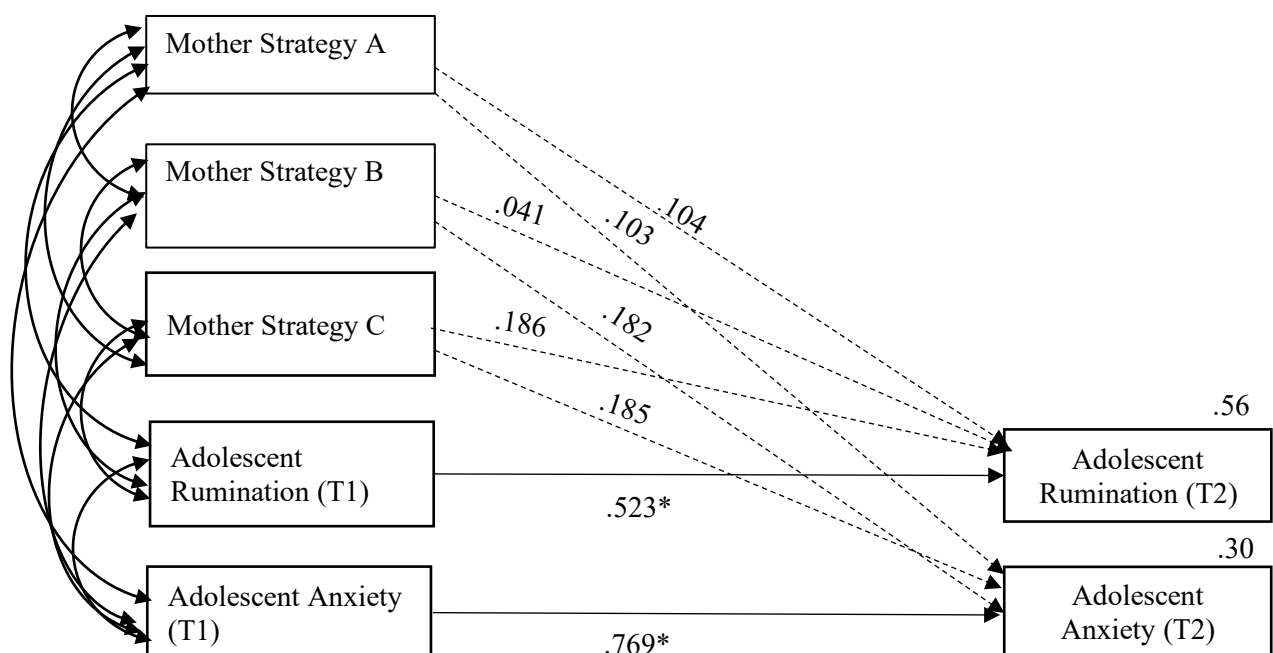


Figure 3.5. Lagged regression model representing change over time relationships between maternal reminiscing qualities and Time 1 and 2 adolescent anxiety and rumination. IV = Time 1 adolescent

anxiety and rumination; maternal reminiscing qualities. DV = Time 2 adolescent anxiety and rumination. Dashed lines represent non-significant effects.

Exploratory moderation analyses. Because there were no significant associations in the lagged models, we ran exploratory moderation analyses to examine whether changes in adolescent changes in levels of anxiety and rumination occurred as a function of parent-adolescent reminiscing qualities. The conceptual model is displayed in Figure 3.6. Moderation analyses were performed separately for adolescent anxiety and adolescent rumination using the SPSS v24 macro, PROCESS v3 (Hayes, 2017), investigating the unique and interactive effects of adolescent and maternal reminiscing qualities on change in adolescent anxiety or rumination over time.

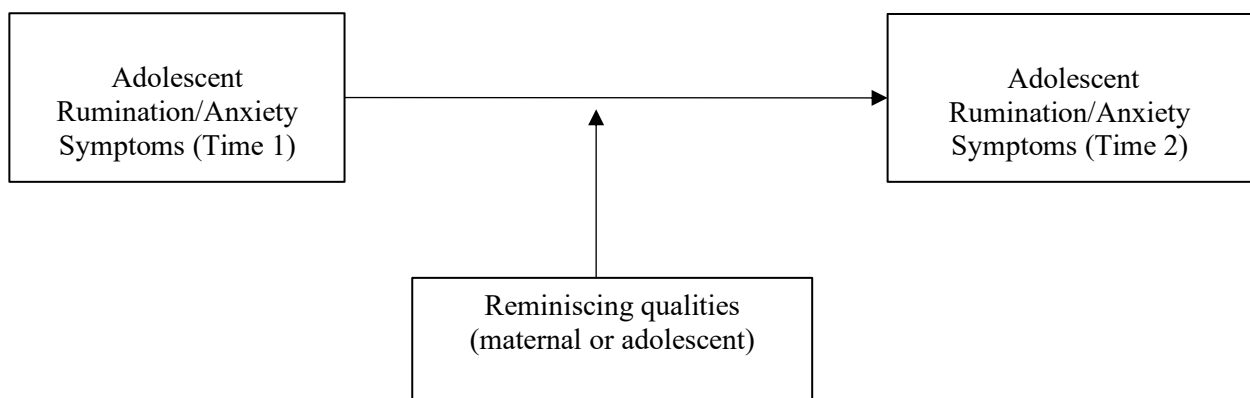


Figure 3.6. Conceptual model representing the moderating role of maternal and adolescent reminiscing qualities on adolescent levels of anxiety and rumination over time. Adolescent anxiety/rumination (T1) = Dependent variable; Adolescent anxiety/rumination (T2) = outcome variable; moderation variable = maternal and adolescent reminiscing conversational qualities. Note. Adolescent rumination and anxiety symptoms were examined separately in analyses but are presented as “adolescent rumination/anxiety symptoms” in the model for simplicity.

Adolescent rumination or anxiety at Time One served as the predictor variables in each model, with maternal and adolescent reminiscing qualities (global, sub-strategies) and Time One adolescent anxiety or rumination entered as the interaction term. Their two-way interaction (e.g., maternal reminiscing quality x adolescent anxiety) was entered simultaneously into a model, with adolescent levels of anxiety or rumination at Time Two as the outcome variable. All variables were grand-mean centred prior to analyses and bootstrapping was performed at the rate of 2000 resamples. Confirmation of a significant moderating effect was determined on the basis of zero not being included in the bootstrapped confidence interval range of the interaction effect. Using PROCESS v3 Model 1 and following recommendations outlined by

Hayes (2017), significant moderating effects were probed further by examining the conditional effects of the predictor variable at low (1 SD below the mean), medium (mean), and high (1 SD above the mean) levels of the moderating variable.

Overall, failing to support Hypothesis 2a, the results showed no significant main or moderating effects at the global or sub-strategy level. That is, no significant relationships were found between maternal or adolescent use of avoidant/disengagement, superficial problem-solving and low levels of emotion expression (strategy A) qualities or qualities characterised by repetitive problem-engagement, self-focused orientation (i.e., more invalidations and less collaboration) and a heightened focus on emotion discussion (strategy B), on adolescent anxiety or rumination across time. In contrast, Hypothesis 2b was partially supported. We did not find that supportive reminiscing qualities characterised by collaboration (strategy C) was negatively related to increases in youth anxiety or rumination over time. As displayed in Table 3.3, however, the relationship between adolescent use of strategy C sub-strategy balanced emotion expression and anxiety was significant. Furthermore, the finding for active problem-solving approached significance and presented in the hypothesised direction. Together, the findings suggest that youth balanced emotion expression, and potentially active problem-solving, negatively moderate the relationship between Time One and Time Two levels of adolescent anxiety (see Table 3.3). An examination of the interaction plot showed a potential buffering effect of greater adolescent use of active problem-solving ($R^2 = .037$; $\beta = -.105$, 95% CI $[-.219, -.022]$ $t = -1.985$, $p = .0515$) and balanced emotion expression ($R^2 = .036$; $\beta = -.108$, 95% CI $[-.216, -.029]$ $t = -2.002$, $p = .0496$) reminiscing qualities on the residual change in adolescent anxiety over time (see figures 3.7 and 3.8). That is, the associations between Time One and Time Two growth in adolescent anxiety were weaker for adolescents with higher use of active problem-solving ($\beta = .890$, 95% CI $[.720, 1.06]$ $t = 10.399$, $p = .001$) compared to medium ($\beta = .693$, 95% CI $[.519, .86]$ $t = 8.096$, $p = .001$) and low levels of active problem solving ($\beta = .496$, 95% CI $[.164, .82]$ $t = 2.984$, $p = .004$). The same pattern was found between adolescent growth in anxiety being weaker for youth who engaged in higher levels of balanced emotion expression ($\beta = .887$, 95% CI $[.720, 1.05]$ $t = 10.581$, $p = .001$) compared to medium ($\beta = .701$, 95% CI $[.528, .87]$ $t = 8.096$, $p = .001$) and lower levels of balanced emotion expression ($\beta = .515$, 95% CI $[.198, .83]$ $t = 3.242$, $p = .002$).

We reiterate that only the association between youth balanced emotion expression and anxiety symptoms was a significant longitudinal moderation. However, the finding involving active-problem solving is also presented as it approached significance at the $p < .05$ level and was in the predicted direction based on our research hypothesis regarding supportive

reminiscing conversational qualities characterised by collaboration, active problem-solving and balanced emotion expression (strategy C) being associated with a decrease in levels of adolescent anxiety over time.

Table 3.3. *Conditional Analyses of Adolescent Reminiscing Qualities (Strategy C Sub Strategies Problem-Solving and Balanced Emotion Expression) Levels of Adolescent Anxiety at T1, and their Interactive Effects in Predicting Adolescent Anxiety at T2.*

Variable	Adolescent anxiety (T2)				
	<i>B</i>	95% CI	SE	<i>t</i>	<i>p</i>
Constant	3.809	3.365, 4.236	.220	16.527	<.001
Adolescent anxiety (T1) (centred)	.693	.517, .843	.082	7.946	<.001
Adolescent Prob. Solving (T1) (centred)	-.043	-.331, .203	.135	-.315	.754
Prob. Solving x Anxiety (T1) x Anxiety (T2)	-.105	-.219, -.022	.050	-1.985	.0515
<i>Note.</i> $R^2 = .0368$					
Constant	3.768	3.317, 4.207	.220	16.239	<.001
Adolescent anxiety (T1) (centred)	.701	.516, .842	.082	8.096	<.001
Adolescent Balanced (T1) (centred)	-.036	-.318, .219	.136	-.251	.803
Balanced x Anxiety (T1) x Anxiety (T2)	-.108	-.216, -.029	.048	-2.002	.0496*
<i>Note.</i> $R^2 = .0363$					

β = Standardized regression path coefficient. CI= bootstrapped 95% confidence intervals. Note. * represents significant effects ($p < .05$).

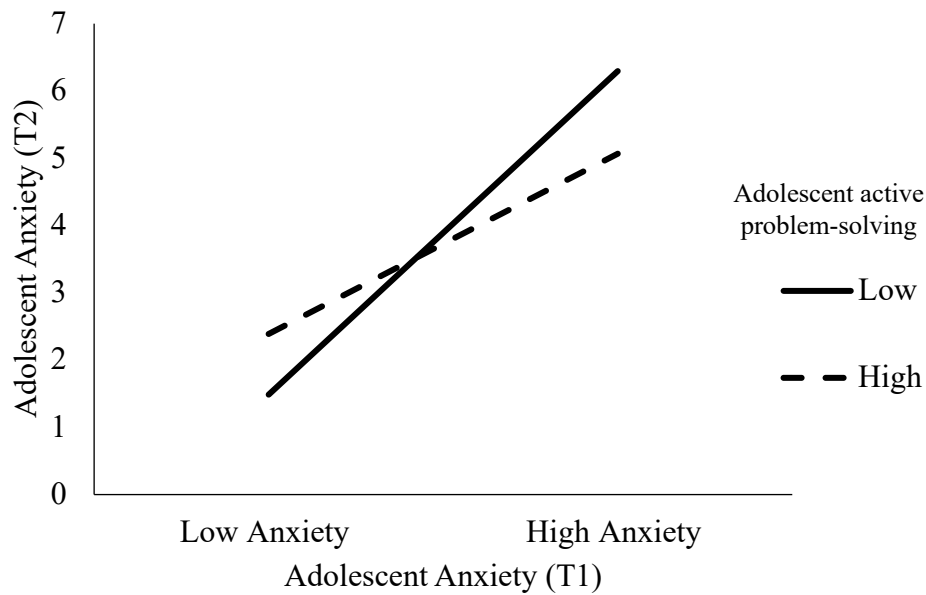


Figure 3.7. An interaction plot graphing the effects of active problem-solving on the association between Time One (T1) and Time Two (T2) adolescent anxiety. Total scores for adolescent anxiety ranged between 0-9 at T1 and 0-10 at T2. High and low levels of adolescent active problem-solving refer to one standard deviation above and below the mean, respectively, on this variable. Note. This interaction effect was not significant.

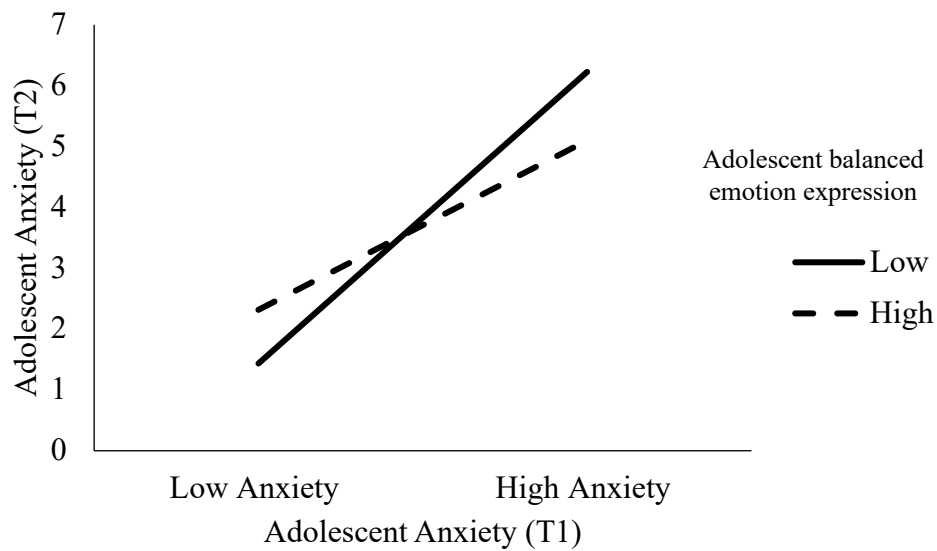


Figure 3.8. An interaction plot graphing the effects of balanced emotion expression on the association between Time One (T1) and Time Two (T2) adolescent anxiety. Total scores for adolescent anxiety ranged between 0-9 at T1 and 0-10 at T2. High and low levels of adolescent balanced emotion expression are defined as one standard deviation above and below the mean, respectively, on this variable. Note. This interaction effect was significant.

In summary, the main findings of Study 2b were as follows. With respect to our first Hypothesis 2a, that maternal and adolescent reminiscing unsupportive qualities characterised by avoidance/disengagement, superficial problem-solving, repetitive problem-engagement, self-focused orientation (e.g., low levels of collaboration, more invalidations, lack of resolution), and imbalanced expression of emotions (i.e., high or low levels of emotion expression) would predict increases in adolescent anxiety and rumination symptoms over time. We did not find support for the role of unsupportive mother or adolescent reminiscing qualities on increased youth anxiety symptoms or rumination longitudinally. Our second Hypothesis 2b predicted that maternal and adolescent reminiscing qualities characterised by patterns of supportive qualities such as collaboration, active problem-solving and balanced emotion expression would be negatively related to increases in youth anxiety and rumination over a 12-month period. Overall, the lagged analyses did not find support for a negative association between mother or adolescent supportive reminiscing qualities and youth anxiety or rumination over time. Exploratory moderation analyses did, however, find a significant moderating effect. Specifically, adolescent use of supportive strategies (balanced emotion expression) presented as a buffer on youth anxiety symptoms over time.

Study 2b: Discussion

The aim of Study 2b was to test the direction of the relationships established in Study 2a by examining the associations across time, addressing whether maternal and adolescent reminiscing conversational qualities predicted residualised change in adolescents' rumination and internalising symptoms (anxiety) across a 12-month period (Research Question 3). The findings from our primary time-lagged regression analyses did not support our hypotheses. Thus, we did not identify evidence that either maternal or adolescent reminiscing unsupportive qualities (e.g., avoidance/disengagement, superficial problem-solving, repetitive problem-engagement, self-focused orientation, and imbalanced expression of emotions) or supportive qualities (e.g., collaboration, active problem-solving) were associated with adolescent anxiety and rumination symptoms longitudinally.

We also conducted a set of exploratory moderation analyses with the rationale that parent-adolescent reminiscing would likely function as a socialisation context that would either exacerbate or mitigate adolescent development of rumination and internalising symptoms (anxiety). The moderation analyses presented one significant association. Adolescents' use of more balanced emotion management during reminiscing conversations was related to significant decreases in anxiety one year later. The direction of the findings is consistent with Hypothesis 2b, that supportive reminiscing qualities would be associated with decreases in levels of youth rumination and anxiety, providing suggestive evidence that reminiscing qualities may be important in understanding the trajectory of adolescent anxiety symptoms across time.

General Discussion

The aim of the current research was to investigate the relationship between parent-adolescent reminiscing qualities and youth rumination and internalising symptoms, cross-sectionally and longitudinally. To achieve this, we obtained 67 conversations of a past conflict event shared between mother and adolescent dyads. Mothers and adolescents also completed self-report depression, anxiety, and rumination. The conversations were coded dyadically for traditional reminiscing qualities (i.e., elaborations, reiterations, invalidations and validations), problem-solving (including resolution seeking), and emotion expression) that were conceptualised along two continuums: supportive qualities (collaborative, approach to problem-solving and balanced emotion expression) and unsupportive qualities (avoidance/disengagement, superficial problem-solving, low levels of emotion expression; as well as repetitive problem-engagement, self-focused orientation and a heightened focus and expression of emotion). By coding the qualities in a boarder and contextualised way, we were

able to capture the expression of the reminiscing constructs (i.e., structural and content qualities) in the context of the interpersonal processes (i.e., mutual influence and responsivity) that shape them. The cross-sectional data was analysed using dyadic statistical methods to examine the transactional effects between mother and adolescent reminiscing qualities and youth rumination and internalising symptoms. Dyadic analyses allowed us to examine both within (actor) and between (partner) individual effects, after controlling for the interdependence between the dyad members. Adolescents were then followed-up 12 months later, and their levels of rumination and internalising symptoms were measured again.

In Study 2a, consistent with our predictions we found bidirectional effects between maternal and adolescent engagement in unsupportive reminiscing qualities and higher maternal and adolescent anxiety symptoms. Specifically, higher maternal anxiety was related to adolescent greater use of unsupportive reminiscing qualities characterised by avoidance/disengagement, superficial problem-solving, and low levels of emotion expression. At the same time, greater adolescent anxiety symptoms was associated with a mother's use of unsupportive reminiscing qualities (avoidance/disengagement and lack of emotion expression). In the opposite direction to our predictions, higher adolescent anxiety was related to mothers engaging in less unsupportive reminiscing qualities such as endorsement of a self-orientation and heightened emotionality during the discussion. The partner findings suggest that maternal unsupportive reminiscing qualities are affecting adolescent anxiety, over and above the effect that an adolescent's own reminiscing qualities are having on their own levels of anxiety (and vice versa). Due to the cross-sectional nature of Study 2a findings, however, we were unable to conclude the causal direction of these effects between maternal and adolescents reminiscing and youth rumination and internalising symptoms.

Therefore, in Study 2b we examined the relationships between maternal and adolescent reminiscing qualities and youth rumination and internalising symptoms longitudinally (12-months later). The longitudinal findings did not support our main predictions. That is, there were no significant relationships between mother-adolescent reminiscing qualities and youth psychopathology. Nonetheless, hypothesis-guided post-hoc analyses showed a moderation between adolescent use of supportive qualities (balanced emotion expression) during mother-adolescent reminiscing conversations and decreases in youth anxiety prospectively. This finding suggests a possible buffering effect of supportive reminiscing qualities in reducing youth anxiety over time. The cross-sectional and longitudinal results are discussed below in relation to the main research questions.

Research Question 1: how do mothers and adolescents manage emotions during a conversation about a past conflict event?

The descriptive statistics presented in the cross-sectional study showed that mothers and adolescents were both contributing to a similar extent during the reminiscing discussions, with comparable levels of reminiscing qualities. Specifically, mothers and adolescents engaged in greater supportive reminiscing strategies (i.e., providing and eliciting event details, balanced emotion expression, discussion of causes and consequence of the event) that endorsed collaborative strategies, compared to unsupportive reminiscing qualities. Moreover, the similar patterns of engagement in collaborative reminiscing qualities across mothers and adolescents illustrates how the dyadic coding scheme usefully captures processes, such as co-construction. These are particularly important interpersonal qualities to describe in parent-adolescent reminiscing conversations, as adolescents are becoming more active contributors during parent-adolescent interactions (Brand & Klimes-Dougan, 2010).

Research Question 2: how do adolescent and maternal reminiscing qualities relate to adolescent and maternal levels of specifically rumination, anxiety, and depression?

Overall, the cross-sectional findings provide support for a bidirectional relationship between maternal and adolescent unsupportive reminiscing qualities and symptoms of youth anxiety. To date, reminiscing research has conceptually adopted a dyadic orientation to studying associations between parent-child reminiscing on child developmental outcomes (Farrant & Reese, 2000; Reese et al., 1993). However, statistically, correlational analyses have not fully captured the interdependent nature of the associations which is key when examining transactional effects (Cook & Kenny 2005). Interpersonal theories posit that when studying relational data an individual's outcomes are determined by a combination of individual and interpersonal processes, including the adolescent's and mother's responsiveness to each other (Ackerman et al., 2012; Kochanska, 2002). Moreover, these theoretical tenets of interpersonal approaches are reflected in the approach to analysing data. Dyadic methods take account of interdependence in the data so that it is possible to identify whether the individual effects or the effect of the reminiscing partner are each related to the outcome and which has the stronger relationship (Kenny et al., 2006; Cook & Dreyer, 1984; Cook & Kenny, 2005). We have argued that from a developmental perspective, accounting for the interdependence in parent-adolescent conversations is particularly important during adolescence because of the more active role that adolescents take on during discussions with their parents and in their socialisation more generally (Hollenstein & Lanteigne, 2018; Kerr et al., 2003). The bi-directional partner findings between maternal and adolescent anxiety and the use of unsupportive strategies provide support

for this proposal. Furthermore, they illustrate the importance of applying dyadic methods of measurement and analysis when studying parent-adolescent reminiscing conversations as way of accounting for the interdependence between mothers and adolescents statistically.

The partner findings between maternal and adolescent anxiety and engagement in greater levels of unsupportive reminiscing qualities contribute to and extend findings presented in the youth emotion socialisation literature and reminiscing research. Specifically, the associations are consistent with emotion socialisation research that link unsupportive parent emotion socialisation behaviours (including low level of emotion expression, emotional invalidation, providing fewer explanatory details concerning the emotional state) to youth internalising symptoms including anxiety (Klimes-Dougan et al., 2007; Miller-Slough & Dunsmore, 2016; Suveg et al., 2008; Yap et al., 2014). Similarly, our findings are also comparable to parent-child reminiscing research investigating the relationship between parent-child reminiscing and a child's socioemotional development (Fivush et al., 2009; Sales & Fivush, 2005). These studies have reported concurrent associations between lower levels of elaborations, problem-solving, and greater invalidation with less adaptive psychological adjustment, including greater internalising symptoms, in children, at least in individualistic, Western, cultures (Fivush et al., 2009; Sales & Fivush, 2005; Salmon & Reese, 2016). In addition, the findings from the current study extend reminiscing research by illustrating a bidirectional relationship between mother's and adolescent's anxiety on the socialisation of adolescent emotion competencies during parent-adolescent reminiscing conversations. The partner findings suggest that mothers and adolescents are mutually influencing each other's use of unsupportive reminiscing qualities that promote emotional avoidance, and this is related to higher adolescent levels of anxiety. This proposal is consistent with a large body of research demonstrating that anxiety is maintained by avoidant patterns of emotion management (Rapee, Schniering, & Hudson, 2009).

In the opposite direction to our predictions, we found that when adolescents were more anxious, their mothers were *less* likely to engage in self-focused orientation and to have less heightened expression of emotion. One possible explanation for this finding is that mothers are engaging in a form of "protective" responding in the context of an adolescent presenting with increased anxiety symptoms. That is, the mother may be adapting her reminiscing style in response to her child's needs. Similar patterns of mothers engaging in supportive behaviours and increased levels of youth internalising problems, have been found in studies investigating youth rumination (Cox et al., 2010) and depression (Sheeber, Hops, Andrews, Alpert, & Davis, 1998; see Schwartz et al. [2012] for review). In terms of the current research findings, a similar

explanation of parental accommodation and responsiveness can be applied as a useful interpretation of the negative relationship found between adolescent anxiety and maternal use of unsupportive reminiscing qualities.

There were also two sets of cross-sectional findings that were inconsistent with our hypotheses. First, we had predicted that lower maternal and adolescent rumination internalising symptoms would be related to greater use of supportive reminiscing qualities, including collaborative engagement, active problem-solving and resolution seeking; and balanced emotion expression. We found no significant relationships between supportive maternal or adolescent reminiscing qualities and youth psychopathology outcomes. This was unexpected given our predictions were theoretically grounded in parent-child reminiscing research that find concurrent relationships between supportive reminiscing qualities, such as elaborations, validations, emotion talk and problem-solving, and a young person's psychological adjustment (Fivush, 2007; Fivush & Sales, 2006; Laible & Song, 2006; Salmon & Reese, 2016; Van Bergen & Salmon, 2010; Van Bergen et al., 2009). Moreover, emotion socialisation research report relationships between parent supportive emotion socialisation behaviours and lower levels of youth internalising problems (Miller-Slough & Dunsmore, 2016; Schwartz et al., 2012). One possibility for the unexpected non-significant cross-sectional findings between supportive qualities and adolescent psychopathology could be the lower levels of youth rumination and internalising symptoms that are characteristic of community samples. The lack of variability in levels of psychopathology and relatively stable levels over time may have limited our ability to detect meaningful effects between reminiscing qualities and psychopathology cross-sectionally compared to if clinical samples were used.

The second set of findings that did not support our cross-sectional predictions relates to the non-significant associations between maternal and adolescent reminiscing qualities and youth rumination and depression. Study 2a sought to investigate the relationship between parent-adolescent reminiscing qualities and youth rumination, depression and anxiety. We predicted that rumination, depression, and anxiety would be differentially associated with supportive and unsupportive parent-adolescent reminiscing qualities. Only associations between unsupportive reminiscing qualities and anxiety symptoms were found, however. This raises the question: why not depression or rumination? One possibility is related to the type of past event that the mother and adolescent discussed. In the current study, we investigated a past conflict event. The negative emotions typically elicited during conflict events (i.e., anger, frustration) may be different to the emotions, and associated socialisation processes, that are implicated in the development of youth depression and rumination. For example, research

examining parent emotion socialisation behaviours of depression have focused on adolescent experiences of dysphoric emotional states (Schwartz et al., 2012). Similarly, studies into interpersonal processes such as co-rumination suggest the role of dwelling on negative affect (e.g., sadness) in youth rumination (Stone & Gibb, 2015).

Relatedly, a conflict event could be too innocuous to induce the level of emotional intensity and types of reminiscing qualities that may be implicated in the development of youth rumination and depression. For example, in a parent-adolescent reminiscing study investigating the development of adolescent PTSS symptoms after a traumatic event, parent egocentrism (i.e., parent self-focused orientation) during parent-adolescent reminiscing about the traumatic event was related to adolescent experiences of greater PTSS symptoms (Hendrickson et al., 2019). Thus, in terms of the current research, perhaps discussing a highly stressful, emotional-laden event that generates a greater range and intensity of negative emotions, during and after the event, would provide a more meaningful context to understand how parent-adolescent reminiscing qualities may play a role in the socialisation of youth depression and rumination.

Research Question 3: Do reminiscing conversational qualities predict youth rumination and internalising symptoms longitudinally? If so, what is the nature of the associations?

Overall, the findings from the longitudinal lagged analyses did not find support for a relationship between supportive or unsupportive mother-adolescent reminiscing qualities and youth psychopathology over time (12-month period). Despite the non-significant results, there was one significant moderation finding related to adolescent use of supportive reminiscing qualities that is worth exploring. Adolescent use of supportive reminiscing qualities, specifically balanced emotion expression, presented as a buffer in the growth of youth anxiety symptoms over time. This is a novel finding that adds to our current knowledge base regarding the role of language and conversation in fostering adaptive child psychological outcomes (Salmon & Conroy, 2009; Salmon & Reese, 2016). Specifically, parent-adolescent reminiscing qualities that encourage balanced emotion management during discussions of past negative events may dampen growth of youth anxiety symptoms over time.

The significant moderation finding between adolescent supportive reminiscing qualities and youth anxiety are consistent with the other findings in the current research relating to the active role of adolescents in their own socialisation. By adolescence, most individuals have acquired the foundations of emotion competencies, so the task of socialisation contexts such as reminiscing becomes more to do with honing those competencies in preparation for the adolescent facing increasingly complex social and emotional situations as they enter adulthood (Steinberg & Morris, 2001; Blakemore & Mills, 2014; Dahl et al., 2018). As we have proposed,

the adolescent's contributions to reminiscing conversations shared with their mothers are shaping the nature, and outcomes, of those discussions, potentially more so than in childhood (Morris et al., 2018). From this perspective, the longitudinal moderation finding regarding adolescent supportive strategies and youth anxiety may reflect this growth in maturity and independence; whereby adolescents are applying adaptive strategies, that were once scaffolded by their primary caregivers through reminiscing discussions, to shape their own psychological adjustment.

Research implications: Theory and Practice.

1. Implications for understanding adolescence socioemotional development

The findings from the current study highlight the role of parent-adolescent reminiscing conversations as a socialisation context related to youth anxiety. Specifically, the findings contribute to our understanding of micro-level qualities of parent-adolescent interactions that function to either exacerbate or dampen the development of adolescent anxiety. Research shows how conversations shared between parents and their young person play a critical role in developing a child's socio-emotional skills and self-regulation, through processes of emotional reflection and creating a detailed and coherent understanding of their emotional experiences (Fivush, 2007; Salmon & Reese, 2016). The present research supports and extends this claim by demonstrating the potentially protective role of adolescent engagement in supportive reminiscing qualities on adolescent anxiety symptom development over time. Taken together, the research findings add to our broader understanding of specific systemic contexts and processes related to the socialisation of youth emotion competencies through discussion of past negative events that could be targeted in intervention of youth anxiety.

2. Implications of dyadic approaches for research on adolescent socioemotional development

Overall, the methodology and subsequent partner findings in the current study provides support for the use of dyadic methods when working with interdependent datasets. From a statistical and methodological perspective, dyadic methods are necessary when studying interpersonal contexts as a means of accounting for the interdependence between parents and adolescents (Cook & Dreyer, 1984). It is the interdependence between the two people, and their processes, which uniquely shapes the reminiscing qualities that researchers observe. The dyadic (partner) findings illustrate the interdependence of parent and adolescents in reminiscing discussions.

The application of dyadic methods in the current study extends the reminiscing literature, methodologically and theoretically, by offering an approach to testing interpersonal processes that theories of reminiscing (i.e., Social Cultural Developmental Theory) have

described across development (Nelson & Fivush, 2004; Vygotsky, 1978). With advancements in dyadic methods and statistical techniques, such as the actor-partner interdependence model, researchers are in an advantageous position of having the statistical tools and methods to model the complex and dynamic nature of reminiscing conversations. Interpersonal methods not only help explain who is influencing whom, and when, during an interaction, but also how (i.e., the nature of that influence or effect) (Kenny et al., 2006). In the present research, the transactional processes of reminiscing described by the Social Cultural Developmental Theory (Nelson & Fivush, 2004), are illustrated in the bidirectional findings between mothers and adolescent anxiety and unsupportive reminiscing qualities. The current research has, therefore, demonstrated the utility, and appropriateness, of adopting a dyadic approach for coding and analysing parent-adolescent reminiscing conversations.

Research Limitations and Future Directions

Despite the novel approach and findings of current research, methodological and theoretical constraints of the research potentially limit the generalisability of our results. These are discussed below.

Sample size and power constraints

The level and variability of adolescent internalising problems amongst the community sample of adolescents we collected from, may have restricted our ability to detect findings between parent-adolescent reminiscing and different levels of psychopathology both cross-sectionally and longitudinally. The current research recruited a community sample of mother-adolescent dyads that presented with relatively low levels of internalising problems, that were moderately stable longitudinally. Thus, potentially limiting the conclusions the current research could draw regarding the meaningful role reminiscing qualities may play in the development of adolescent rumination and internalising symptoms over time. Replicating the relationships found in the current study on clinical samples would be a useful way to test the clinical utility of parent-adolescent reminiscing conversations as a meaningful context for change in the developmental and maintenance of adolescent anxiety.

A related constraint concerns the sample size and level of power that the current study had for detecting longitudinal findings. Determining sample sizes for adequate statistical power in dyadic research can be difficult because the data involves two people per case - each case is characterised by two people with non-independent variables being measured. To overcome biases that accompany interrelated datasets, the current study applied dyadic methods of analyses to account for the interdependence of the data. We based our sample size on previous parent-child reminiscing studies that have also used a similar number of parent-child dyads

(Fivush et al., 2009; Sales & Fivush, 2005; Wu & Jobson, 2020 for meta-analytic review). In saying this, one reason why we may not have detected significant findings to support all our research hypotheses in the present research, may have been an issue of power. A larger sample size and greater variability in psychopathology scores is likely needed to differentiate relationships between rumination, depression and anxiety outcomes; as well as detect findings longitudinally. Future research that adopts a dyadic approach to studying reminiscing conversations may, therefore, benefit from investigating ways to increase power (i.e., larger sample size which will increase the number of assessments) especially when exploring relationships across multiple time points.

Mechanisms

More knowledge is needed regarding the specific mechanisms of reminiscing that are related to youth rumination and internalising symptoms over time. The current study took the first step in investigating the effects of mother-adolescent reminiscing on youth anxiety and found a potential buffering effect of adolescent supportive reminiscing qualities during mother-adolescent reminiscing, on subsequent levels of adolescent anxiety one year later. However, extending the findings across multiple time points would clarify the direction of the relationships and assist in identifying the specific mechanisms of parent-adolescent reminiscing conversations that are uniquely related to change in adolescent rumination and internalising symptoms longitudinally. For example, it could be that parent-adolescent reminiscing contexts and qualities shape adolescent emotion regulation capacities, which in turn is related to youth internalising problems longitudinally. A self-report study by Buckholdt et al. (2014) demonstrated this mediating effect cross-sectionally when examining the relationship between parental invalidating responses and adolescent internalising problems. The study found that parent's emotion dysregulation was associated with greater parental invalidating responses towards the adolescent's emotion expression, which in turn was related to adolescent emotion dysregulation. Adolescent emotion dysregulation then mediated the relationship between parental invalidation and youth internalising problems (Buckholdt et al., 2014). The current study did not explicitly measure adolescent emotion regulation. However, it would be an interesting mediating factor to explore in future studies, that could potentially explain the relationship between parent-adolescent reminiscing qualities and youth rumination and internalising symptom development over time.

Furthermore, future research would benefit from examining potential between dyad differences and moderators to the relationships we established in the current study. With a larger sample size and variability in psychopathology scores, between dyad differences could be

investigated to answer follow-up questions to the current study such as, are the findings between unsupportive reminiscing qualities and youth anxiety more likely in certain parent-adolescent dyads? Between dyad differences on variables such as parent-adolescent relationship quality could act as a potential moderator to the associations found between unsupportive reminiscing qualities and youth anxiety cross-sectionally. Research on parent-child reminiscing acknowledges the importance of secure attachment styles when considering the adaptive role of parent-child reminiscing on a child's socioemotional development (Fivush & Sales, 2006; Gini et al., 2007; Laible, 2004). For adolescents, relationship quality with their primary caregivers may be a particularly important moderator, because of the nature of changes to parent-adolescent relationship dynamics that are characteristic of the adolescent period (Brand & Klimes-Dougan, 2010; Blakemore & Mills, 2014). In the current study, relationship quality was indirectly accounted for through the constructs of the dyadic coding scheme being related to core attachment strategies of secure, avoidant and insecure attachment (Low et al., 2018; Naragon-Gainly, McMahon, & Chacko, 2017). However, explicit testing of relationship quality as a moderator may reveal that greater relationship quality strengthens the relationship between the use of supportive reminiscing qualities and lower levels of youth rumination and internalising symptoms.

Concluding Comments

Collectively, the cross-sectional and longitudinal findings provide support for the role of parent-adolescent reminiscing in adolescent psychopathology, specifically anxiety. We have demonstrated how qualities of reminiscing conversations continue to play an important role across development, in increasingly complex and dynamic ways. The research findings provide support for how conversational qualities, by both the mother and adolescent, during reminiscing, mutually influence adolescent anxiety. The partner findings between mothers and adolescents reiterate the importance of accounting for the interpersonal context of the parent-adolescent relationship when studying reminiscing processes. Moreover, they illustrate how adolescents take on an active role in influencing their own psychological outcomes cross-sectionally and longitudinally. The research findings have implications for clarifying specific behaviours and qualities related to adolescent anxiety, that could be potential targets in clinical intervention.

Chapter 4

General Discussion

Overview of Research Aims

At the outset of the current research, we aimed to address three theoretical gaps in the parent-child reminiscing research: 1) Research on parent-child reminiscing qualities and their relationship to a child's socioemotional development and psychological adjustment has involved young children up to preadolescents. However, adolescence is a period of increased risk for the development of rumination and internalising symptoms (Cohen et al., 1993; Stone, Hankin, Gibb, & Abela, 2011). Furthermore, research in the broader youth emotion socialisation literature suggest that parent-adolescent interactions remains a key socialisation context implicated in the development of youth emotion management skills and internalising problems. Thus, the current research sought to investigate the relationship between parent-adolescent reminiscing conversations and youth rumination, depression and anxiety during middle adolescence. 2) Research linking parent-child reminiscing qualities to child internalising problems has been largely cross-sectional, making it difficult to draw conclusions of causality. For this reason, the present research adopted a longitudinal design to help disentangle the direction of the effects between parent-adolescent reminiscing and youth rumination, anxiety and depression. 3) Finally, we applied a dyadic approach to our measurement and analysis of parent-adolescent reminiscing conversations to explicitly capture the inherently interpersonal nature of the reminiscing context. We proposed that accounting for the transactional effects between parents and adolescents on youth outcomes is particularly important in the context of the parent-adolescent relationship because adolescents are contributing to the co-construction of the narrative to a greater extent compared to younger children. The original theoretical model (Figure 1.2) we planned to test across two studies is presented again in Figure 4.1 with the bold paths representing the relationships that were supported by the research findings.

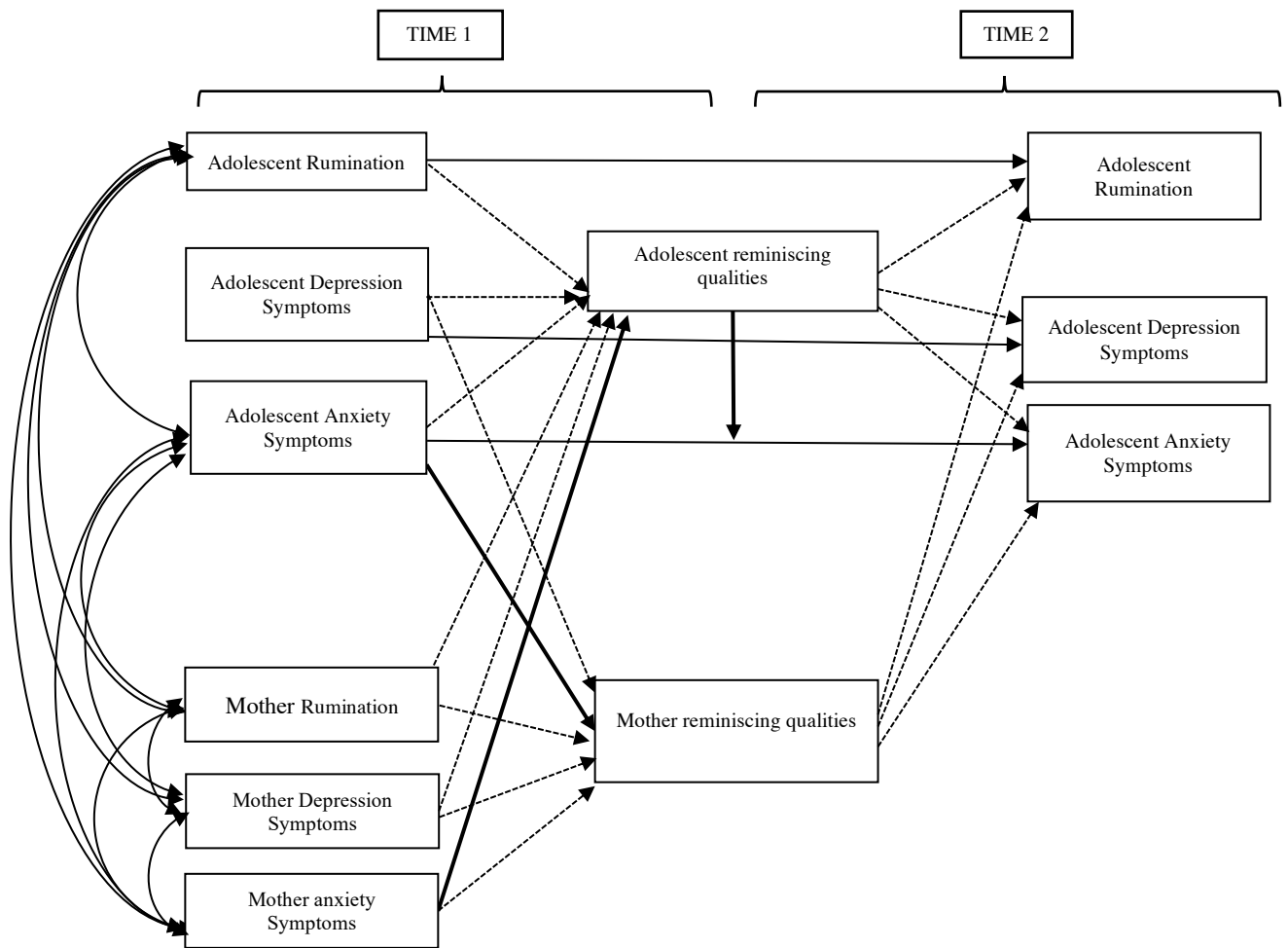


Figure 4.1. Original theoretical model with updated significant cross-sectional and longitudinal findings between adolescent and mother reminiscing qualities and youth rumination and internalising problems. Time 1 represents the path models tested in Study 2a and Time 2 represents the longitudinal associations that were examined in Study 2b. The dashed lines represent paths of the original model that were not supported in the research findings. The bold paths indicate significant effects. The curved bidirectional arrows represent the covariance between the variables.

Summary of Research Findings

Study 1 focused on establishing the methodological foundations for adopting a full dyadic approach to our research. To our knowledge there is not an existing dyadic coding scheme designed for parent-adolescent reminiscing that captures the content and structural aspects of reminiscing while simultaneously accounting for the interpersonal processes (i.e., mutual support, responsivity) that shape the expression and function of the reminiscing qualities. The aim of Study 1 was therefore to test the validity of a proposed coding scheme designed to dyadically capture parent-adolescent reminiscing qualities. We assessed validity of the dyadic coding scheme in terms of convergent and discriminant validity with an existing reminiscing coding scheme that took an individual-focus (i.e., maternal reminiscing qualities)

and coded the content and structural qualities of the conversation separately. We predicted that the two coding schemes would overlap in the constructs that they measured; however, the expression of the reminiscing qualities would differ once accounting for interpersonal processes as per the dyadic coding scheme. Specifically, mother-adolescent reminiscing qualities that extend the conversation and encourage detailed narratives were hypothesised to be correlated to interpersonal qualities of collaboration and co-construction. In contrast, reminiscing qualities that discontinue the conversation would be endorsed by interpersonal qualities related to avoidance/disengagement and repetitive problem engagement. The findings supported our hypotheses. Thus, the findings from Study 1 provided convergent and discriminant validity for the dyadic coding scheme capturing key parent and adolescent reminiscing qualities in the context of the broader interpersonal processes that are shaping them.

In Study 2, we applied the dyadic coding scheme to studying the relationship between parent-adolescent reminiscing and youth rumination and internalising symptoms, concurrently (Study 2a) and longitudinally (Study 2b). Study 2 sought to answer three main research questions: how do mothers and adolescents manage emotions during a conversation about a past conflict event? How do adolescent and maternal reminiscing qualities relate to adolescent and maternal levels of rumination, anxiety, and depression? And do parent-adolescent reminiscing conversational qualities predict youth rumination and internalising symptoms longitudinally? To answer these questions, 67 mother-adolescent dyads were recruited and asked to discuss a shared past conflict event that they had experienced together. Transcripts of the conversations were coded for reminiscing qualities captured along the dimensions of unsupportive (i.e., avoidance/disengagement, repetitive problem engagement) and supportive (i.e., collaboration) strategies. Self-reports of maternal and adolescent rumination, depression and anxiety were collected at Time One, and adolescent self-reports were again measured at a follow-up time point 12-months later.

In Study 2a, our first hypothesis predicted that cross-sectionally: (a) higher levels of maternal and adolescent rumination, anxiety and depression would be associated with greater maternal and adolescent use of unsupportive reminiscing qualities. Conversely, (b) lower levels of maternal and adolescent rumination, anxiety and depression symptoms would be related to greater maternal and adolescent use of more supportive reminiscing qualities between mothers and adolescents. Overall, the main cross-sectional findings provided partial support for Hypothesis 1a. Inconsistent with our predictions, mother-adolescent reminiscing qualities were not associated with youth depressive symptoms or rumination. However, we did find

significant partner effects between unsupportive reminiscing strategies and youth anxiety. Specifically, higher maternal anxiety was related to adolescent use of greater unsupportive reminiscing qualities characterised by avoidance/disengagement. Furthermore, this was a bidirectional association whereby higher adolescent anxiety symptoms were related to greater maternal use of unsupportive strategies characterised by avoidance/disengagement. In the opposite direction to Hypothesis 1a, higher adolescent anxiety was also associated with mothers engaging in less unsupportive qualities related to self-focused orientation and heightened emotion expression. The partner effects between anxiety and use of unsupportive reminiscing qualities were found after controlling for individual effects and levels of dependency between the mother and adolescent. Therefore, they suggest that over and above within individual effects, mothers and adolescents were having a greater effect on each other's outcomes.

Next, in Study 2b we examined the relationships between maternal and adolescent reminiscing qualities and youth rumination and internalising symptoms (anxiety) longitudinally (12-months later). Our second hypothesis predicted that (a) maternal and adolescent reminiscing unsupportive qualities would predict increases in adolescent rumination and internalising symptoms (anxiety) over time; while (b) qualities characterised by patterns of supportive maternal and adolescent reminiscing qualities would be negatively related to increases in youth rumination and internalising symptoms (anxiety) longitudinally. Findings from the lagged analyses did not support our main predictions. There were no significant associations between mother-adolescent reminiscing qualities and youth rumination and anxiety at follow-up 12-months later. We did, however, present a significant moderating effect relating to adolescent use of supportive reminiscing qualities (balanced emotion expression) during mother-adolescent reminiscing conversations and decreases in youth anxiety symptoms longitudinally. This significant moderation indicates the potential role of supportive reminiscing qualities in buffering growth in youth anxiety symptoms over time.

The results from Studies 1 and 2 are discussed below in relation to the overarching theoretical questions that the current research programme sought to address.

Discussion of the Current Findings

Adolescence: emotion socialisation, rumination and internalising symptoms. Overall, Studies 1 and 2 showed that mother-adolescent discussions about past emotion-laden events is an important emotion socialisation context related to youth psychological adjustment during middle adolescence. One way that our research methods and findings extend knowledge on youth emotion socialisation is by drawing attention to the complex interpersonal dynamics of

parent-adolescent interactions and their relationship to youth psychological outcomes. Research suggests that the greater degree of mutual influence during parent-adolescent interactions compared to childhood is in part due to do with changes in adolescent capabilities (e.g., emotion competencies, language skills) and shifts in developmental goals (e.g., a strive for greater independence from primary caregivers) (Steinberg & Morris, 2001). From a reminiscing perspective, this means that adolescents are contributing to the co-construction of conversations in increasingly sophisticated ways compared to early childhood. The dyadic coding scheme and analyses we applied in the current research captured this bidirectional nature of parent-adolescent reminiscing and its relationship to youth psychopathology.

In terms of the relationships between parent-adolescent reminiscing qualities and youth rumination and internalising symptoms, as presented in Figure 4.1, the main research findings, unexpectedly, concerned mother-adolescent reminiscing and youth anxiety. Specifically, higher maternal anxiety was related to greater youth engagement in reminiscing qualities captured through avoidance/disengagement (i.e., low levels of elaboration, confirmations, emotion expression, problem-solving and resolutions seeking but higher levels of negations). An effect was also found between greater maternal use of avoidance/disengagement qualities and heightened youth anxiety symptoms. Furthermore, mothers of children with higher levels of anxiety were *less* likely to engage in reminiscing qualities that endorsed a self-focused orientation and heightened emotion expression (i.e., high levels of elaborations, emotion expression, negations, but low levels of confirmations, problem-solving and resolution seeking). In our discussion of Study 2 findings, we suggested that this inverse relationship could be a form of “protective” responding from the parent towards their anxious adolescent. Taken together, the findings suggest that parents may be playing a dual-role in the development and/or maintenance of youth anxiety. That is, mothers may be simultaneously communicating and accommodating patterns of avoidant emotion management behaviours to their youth through the way that they discuss past emotion-laden negative events. At the same time, our results suggest that this process is bidirectional; anxious adolescents also elicit certain (unsupportive) patterns of reminiscing qualities from their mothers reminiscing discussions.

In the discussion section of Study 2 we raised the question of why anxiety and not rumination or depression? There we suggested that this could be to do with the type of the event being discussed (i.e., past conflict) and the level of emotional intensity that it elicited. Alternatively, the findings could be related to the developmental course of anxiety. Unlike depression and rumination (that typically have an onset during adolescence) anxiety is a psychological disorder that also occurs in childhood and peaks again during adolescence (Van

Oort, Greaves-Lord, Verhulst, Ormel, & Huizink, 2009). Robust research findings have identified the role of negative patterns of parent-child interactions in the development, and subsequent treatment, of childhood anxiety disorders (Niec, 2018; Rapee, 1997; for review see Rapee, Schniering, & Hudson, 2009). The stability of anxiety across childhood into adolescence may, therefore, mean that there are more engrained bidirectional patterns between parents and adolescents established from childhood that maintain youth anxiety symptoms. These patterns could be what we are capturing in the results of the current study.

In summary, the current research findings on parent-adolescent reminiscing and youth anxiety add and extend to the current literature in two key ways. First, the research adds to the broader emotion socialisation literature by acknowledging that parent-adolescent reminiscing discussions are important socialisation contexts related to youth anxiety. Second, from a developmental perspective, the research findings present a novel contribution to the literature by being first study to examine the relationship between parent-adolescent reminiscing qualities and youth internalising symptoms during middle adolescence

Establishing longitudinal associations. The hypothesised longitudinal associations between parent-adolescent reminiscing and youth rumination and internalising symptoms were not supported by our research findings. Therefore, we were unable to conclude on whether parent-adolescent reminiscing discussions play a role in the development of youth rumination, depression, and anxiety over time. We do, however, present a significant moderation finding in Study 2b. As illustrated in Figure 4.1, greater adolescent engagement in supportive reminiscing qualities (specifically, balanced emotion expression) decreased the growth in adolescent anxiety across a 12-month period. This finding was only for adolescent reminiscing behaviours; suggesting that adolescents are internalising strategies of emotion management communicated through parent-adolescent reminiscing conversations. This explanation is consistent with the notion that as children get older, they play a more active role during reminiscing conversations with their parents (Farrant & Reese, 2000) and in their socialisation more generally (Allen et al., 2006). The significant moderation finding provides support for the potential role of parent-adolescent reminiscing as a context for clinical intervention for youth anxiety. This is discussed in more detail in a later section of the general discussion.

Dyadic methods. The Social Cultural Developmental Theory (Nelson & Fivush, 2004) describes reminiscing as involving mutually influencing processes between a parent and child. The basic assumption here is that reminiscing is a dynamic, interpersonal process. Methods of studying reminiscing conversations and their constructs/qualities, however, have not typically adopted interpersonal methodology (i.e., coding schemes and statistical analyses). This

incongruence between theory and method, limits a researcher's ability to fully understand the transactional nature of reminiscing conversations because they are not accounting for the range of possible confounds (i.e., individual, partner, and relational factors) that accompany dependent datasets. The two studies in the current research addressed this limitation on both a methodological and statistical level. In Study 1 we showed the added conceptual value that a dyadic approach brings to coding reminiscing conversations. We did this by simultaneously coding for content and structure in the context of the interdependent qualities (e.g., responsivity, mutual influence) of parent-adolescent reminiscing that are shaping the behaviour. Study 2 then demonstrated the utility of dyadic methods, by capturing bidirectional patterns of effects between parent-adolescent reminiscing qualities and youth anxiety symptoms. Overall, the current research has shown how applying a dyadic approach to studying parent-adolescent reminiscing and its relationship to youth psychological adjustment is one way to reconcile the gap between developmental theories (i.e., Social Cultural Developmental Theory) that describe reminiscing as an interdependent process, and methods that currently do not account for this interdependence.

Research Implications: Clinical Intervention

The pattern of cross-sectional and moderation findings offer support for the potential role of parent-adolescent reminiscing as an interpersonal context for the clinical intervention of youth anxiety. The current studies' findings identify specific qualities that promote emotional avoidance/disengagement during parent-adolescent discussions about past negative events that could be targeted as behaviours related to the maintenance of anxiety. Complementing this finding are the moderating effects of adolescent use of supportive reminiscing qualities (for example, balanced emotion expression) in decreasing anxiety symptoms over time. The findings are consistent with models of anxiety disorders that identify emotion dysregulation and avoidance as common factors in the development and maintenance of anxiety symptoms (Carr, 2016; Rapee et al., 2009; Southam-Gerow & Chorpita, 2007). Moreover, the bidirectional nature of the cross-sectional associations highlights the importance of targeting interpersonal factors related to anxiety symptoms during middle adolescence. For example, clinical interventions could focus on developing patterns of collaborative and responsive communication during parent-adolescent discussions of past negative events. Similar approaches are adopted in interpersonal therapies for the treatment of adolescent depression (Mufson, Moreau, Weissman, & Klerman, 1993; Sander & McCarty, 2005). Furthermore, cognitive behavioural treatment programmes for childhood anxiety disorders include parent and adolescent modules to target systemic factors involved in the maintenance

of childhood anxiety (Lyneham & Rapee, 2005; Rapee et al., 2006). Nonetheless, our implications for clinical intervention are based largely on concurrent findings. More longitudinal research investigating the relationship between parent-adolescent reminiscing about emotion-laden events and youth anxiety across multiple time points is needed to better understand the causal role of parent-adolescent reminiscing in the development of youth anxiety.

Limits to Generalisability and Future Directions

Coding

The dyadic coding scheme we applied offers a good starting point for establishing sound support in favour of using dyadic methods to capture how parents and adolescents influence each other during reminiscing conversations but could have gone further in disentangling the nuances of these relationships. For the purposes of the current study, the global style, macro-based coding was useful in answering the outcome –based questions we were asking related to youth psychopathology. The main advantages of using a global coding scheme was that it was an efficient way of capturing the larger context of the interactions, by coding the overall frequency and intensity of the reminiscing qualities. A limitation to macro level coding, however, is that it can be less sensitive to capturing specific dynamics of the behaviour and interactions being observed. In contrast, a micro-coding based approach (i.e., utterance level, or turn-by-turn) takes a more fine-grained approach to coding and is designed to capture behaviours at the most specific level. Micro-level coding lends itself to analyses designed to answer process related questions (i.e., sequential analysis). Therefore, it could be advantageous for identifying specific patterns (i.e., moment-to-moment dynamics) of parent-adolescent reminiscing discussions that are associated with youth psychopathology. However, one key limitation of micro-based coding is that it runs the risk of oversimplifying reminiscing qualities, by considering each quality in isolation - not accounting for the broader pattern and context of the interaction that is shaping their presentation and function (Chorney, McMurtry, Chambers, & Bakeman, 2015). Future coding of reminiscing conversations may benefit from applying a combination of both micro and macro coding to overcome the limitations of both approaches (Chorney et al., 2015). Furthermore, using a combination of both macro (global) and micro (utterance) level approaches to coding would also allow researchers to examine both outcome and process type questions related to reminiscing and youth psychopathology.

Contextual factors

The heterogeneity of adolescent development. This limitation concerns the generalisability of the research findings to other periods within adolescence. The current study

was the first to demonstrate the role of parent-adolescent reminiscing discussion qualities on youth psychopathology. Specifically, our cross-sectional findings showed a dyadic effect between mother and adolescent reminiscing qualities and anxiety symptoms. In addition, the longitudinal findings provided provisional support for the role of adolescent supportive reminiscing qualities in decreasing youth anxiety symptoms over time. The findings were established on a sample of youth in middle adolescence. This raises an important question regarding the generalisability of the results to other periods within adolescence. From a developmental perspective, adolescence constitutes a highly varied and extended period of development split broadly into early, middle and late adolescence; with each stage being associated with different developmental needs and tasks (Dahl, Allen, Wilbretch, & Suleiman, 2018). A growing body of literature have identified “sensitive periods” throughout adolescence, where interventions on youth psychological adjustment are more (or less) effective, depending on their ability to address the unique developmental needs of the adolescent period that they are intervening in (Dahl et al., 2018). From this perspective, researchers need to be cautious about assuming one style or set of reminiscing qualities established as meaningful in one stage of adolescence, is appropriate, or leads to the same psychological outcomes, as another stage of adolescence. For example, developmental differences in youth emotion regulation abilities from early to late adolescence may influence an adolescents’ ability to cope with negative events and thus the level of emotional support an adolescent requires from their parent. Future research would benefit from re-examining the relationships between parent-adolescent reminiscing qualities and youth internalising problems during stages of early and later adolescence, taking into consideration differences in developmental needs, abilities, and interpersonal dynamics that might moderate the associations.

Socialisation agents. The current research findings provide support for the dyadic coding scheme as a useful tool for assessing qualities of reminiscing conversations in the context of a past conflict discussion between mothers and adolescents. However, there may be limits to the generalizability of the results, when we consider the utility of the coding scheme for studying reminiscing in different relationship contexts, such as father-adolescent reminiscing conversations as well as reminiscing in friendship context.

First, in the few studies that have compared reminiscing styles between fathers and mothers, the findings have been inconsistent. Some research has concluded that mothers are more elaborative (Fivush, Marin, McWilliams, & Bohanek, 2009; Fivush & Zaman, 2013) and include more emotion talk (Fivush & Zaman, 2013) when reminiscing with their young

children, compared to fathers. Other studies do not show such differences in either reminiscing styles or emotion processing between mothers and fathers (Adams, Kuebli, Boyle, & Fivush, 1995). Overall, the research suggests that, there are, in general, qualities of reminiscing (i.e., supportive and elaborative reminiscing) that are more adaptive, compared to others, irrespective of parental role. Given the inconclusive findings between maternal and paternal reminiscing on child outcomes, we would not expect the current results to differ if fathers were also included. However, the paucity of research examining the relationship between mother versus father-adolescent reminiscing on youth psychological outcomes, means that this is a context that warrants further research.

Second, the current study findings focus on the role of reminiscing conversations between mothers and their youth, however there are other relationships (i.e., friendships) that function as important socialisation contexts during adolescence that may also play a role in shaping youth psychological outcomes. Adolescents are increasingly turning to their peers for emotional support during adolescence (Blakemore, 2018). Research has shown that interpersonal dysfunction between females and their peers can be a stress factor involved in the development and maintenance of adolescent depression (Katz, Conway, Hammen, Brennan, & Najman, 2011; Hammen, Brennan, & Keenan-Miller, 2008). Similarly, co-rumination between peers has been related to youth depression via increasing ruminative styles of emotion management (Stone & Gibb, 2015). In a study by McLean and Jennings (2012), parent and friendship reminiscing contexts were compared, in relation to adolescent narrative identity development. The findings from the study suggested that parent and peer reminiscing were uniquely associated to different aspects of an adolescent's narrative identity development. Comparably, Allen et al. (2006) compared behaviours related to adolescent autonomy and relatedness during emotion discussions, had with either a parent or a friend, on youth depression. Findings showed that parents and friends engaged in different interaction styles to support autonomy and relatedness needs of the adolescent; these styles were differentially related to youth psychological outcomes (Allen et al., 2006). Thus, in terms of the current research findings, it may be that the mother-adolescent reminiscing context and peer reminiscing contexts effect youth psychopathology differently during middle adolescence, however, how they differ in function is yet to be tested.

The role of culture. Finally, our research involved a predominantly New Zealand/European sample of mother-adolescent dyads which may have limited the applicability of our results to parent-child reminiscing practices in other cultures. The current findings are consistent with findings from other reminiscing studies using samples of parent-

child dyads from individualistic cultures (for reviews see Fivush, 2007; Fivush, Haden, & Reese, 2006). However, we know from cross-cultural research that parent-child reminiscing serves a different function in cultures that adopt a more relational world-view, such as in Asian countries (Wang, 2013). For example, Euro-American mothers are found to be more child-centred in their focus, as well as more elaborative, evaluative and included greater discussion of the causes and consequences of emotional experiences when reminiscing with their preschool children, compared to Chinese mothers (Fivush, 2007; Wang, 2001; Wang & Fivush, 2005). The observed differences between reminiscing styles and emotion socialisation practices cross-culturally are suggested to be a function of differences in cultural value systems (Fivush, 2007). That is, being highly elaborative is more consistent with an individualistic view, typically adopted in Western countries, that promote an autonomous self-identity, with the ability to articulate emotional states and experiences being a valued skill (Wang & Fivush, 2005). In contrast, countries with a more relational value system, such as in Asia, tend to emphasise the development of the self in relation to others. In these cultures, maintaining social cohesion, rather than self-expression, is prioritised (Wang, 2013). Indeed, research finds that Euro-American children present greater levels of emotion knowledge compared to Chinese children during early childhood (Wang, 2003, 2008). To date, no research has focused on understanding cultural variations in adolescent-parent reminiscing and their associations to youth psychological adjustment. Given the differences in emotion socialisation practices across cultures, understanding the potential moderating role that culture plays in shaping parent-adolescent discussions about past emotion-laden events and their relationship to mental health outcomes, particularly in cultures where displays of emotion expression are less valued, would be an interesting direction to take future research.

Conclusions

So far, research has demonstrated the foundational functions of parent-child reminiscing for children's socioemotional development and psychological adjustment across childhood. The present research is the first to demonstrate the dyadic relationships between parent-adolescent reminiscing and youth psychopathology, specifically anxiety. By doing so, the study findings have addressed three key gaps in the literature. First, they highlight the importance of parent-adolescent reminiscing for youth psychological adjustment, specifically anxiety, during middle adolescence. Second, the longitudinal moderations offer initial support for the role of parent-adolescent reminiscing about past negative events, as an interpersonal context that communicates constructive strategies of managing emotions to adolescents that may, in turn, serve as protective in the development of anxiety symptoms. Finally, across the

three studies we have illustrated the importance of accounting for the interpersonal nature of parent-adolescent reminiscing in our research methods. That is, in the way that reminiscing qualities are defined and measured - with explicit acknowledgement of the interpersonal context that shape the qualities and how. As well as statistically, in terms of accounting for the interdependence between parents and adolescents, which allows researchers to model transactional effects and ask questions regarding how parents and adolescents are both shaping youth psychological outcomes. By taking a full dyadic approach, research methods better align with theory that describe transactional processes. Future research would benefit from investigating the dyadic relationships between parent-adolescent reminiscing and youth outcomes across contexts (e.g., stages within adolescent development, reminiscing event type, cultures, socialisation agents). More longitudinal research is also needed to further understand the role of parent-adolescent reminiscing on youth rumination and internalising problems. Such work would be well suited to examine potential mechanisms of parent-adolescent reminiscing on youth psychopathology (such as youth emotion regulation abilities) that could be used as targets in clinical intervention.

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APPENDIX A: Dyadic Coding Scheme

DYADIC CODING FOR MOTHER-ADOLESCENT CONFLICT CONVERSATIONS

The following coding schedule is an adapted version of the "Coding for Conflict Interactions" coding scheme, and is designed to assess three strategies of emotion management between parents and adolescents during conversations of a past conflict event. Each category is made up of three category indicators, which assess: engagement in the discussion, approach to problem-solving, and expression of emotion.

Coding will be conducted separately for each partner, and each strategy. Thus, the interactions will be reviewed six times to provide independent ratings of Strategy A, B, C separately for the mother and the adolescent. In half the dyads, mothers will be coded first, and in half the dyads, adolescents will be coded first.

Each indicator, and the category overall, will be rated on a 7-pt scales to globally capture the degree to which each individual exhibits the variety of responses falling within each category. Coders will review the entire script and take into account the frequency, intensity and duration of conversational qualities associated with each category (low = 1-2, moderate = 3-5, high = 6-7).

Strategy A

This category involves a lack of engagement with the partner and the problem being discussed, and a passive and dismissing approach to problem-solving that involves superficial, and suppressed emotional expressions. Low-to-moderate levels of strategy A may involve the person simply not being involved or engaged in the discussion, appearing as they care very little about the issues, avoiding conflict or 'hot' issues and emotions, discussing the issue in an impersonal manner that lacks depth and 'skims the surface'. Higher levels of strategy A are likely to also include actively deflecting the partner's attempts to engage, emotionally withdrawing from the conversation, and obvious suppression and concealment of emotion content in discussion.

Avoidance/Disengagement: *Lack of engagement* with the partner and a *passive* and *dismissing* approach to the problem, which may involve:

- avoiding discussing the problem or emotion (e.g., diverting attention, hesitating, changing topics, delaying the discussion)
- ignoring/refusing to acknowledge the problem, dismissing its importance, and deflecting the partner's concerns and attempts to discuss the issue
- conveying little concern about the problem, partner's views or feelings. Overall disengaged from the conversation.
- withdrawing from the discussion (e.g., silent, cold and/or distant)

Superficial problem-solving: Contributions to the discussion and any problem-solving is *superficial, lacks depth, and 'skims the surface'*, such as:

- Contributions that are impersonal and reveal little about the person's thoughts or feelings about the event (versus meaningful, self-revealing and personal disclosures)
- rational discussion of the problem that is information-oriented and logical, but *lacks* deep reflection and exploration of emotions, causes and resolutions or recognition of the person's (or their partner's) thoughts and feelings about the issues.

Hypo emotion expression: Emotional elements of the communication or discussion are *muted* and person *attempts to suppress or conceal his/her emotions*, which may manifest as:

- Offers little to no discussion of emotional content (*refer to definition of “emotion talk” at end of schedule*)
- Actively withdrawing from discussion involving emotional content (i.e., periods of silence, not-responding to questions about their own or partner’s emotions or emotional content of the event)

Strategy B

This category involves engagement in the discussion and desires/attempts to connect with the partner, but in ways that (a) fixate on and amplify the symptoms, causes, and consequences of the problem rather than solutions to the problem, (b) emphasize the desires and needs of the self, including being heard by the partner, and (c) focus on, express, exaggerate and pull emotions. Low-to-moderate levels of strategy B may involve reflecting on the existence (causes and consequences) rather than solutions to the problem, a somewhat pessimistic outlook, focusing on own perspective including when expressing and discussing emotions. Higher levels of strategy B are also likely to include high levels of perseveration and inflexible perspective-taking resulting in the individual’s perspective dominating the conversation, negatively biased interpretations and expectations, frustrated attempts to ‘make the partner understand’, going round in circles or getting ‘stuck’ on the issue, and high levels of negative emotions, discussion of causes and consequences, with no resolution attempted or reached.

Repetitive problem engagement: Discussing the problem in a way that dwells on and amplifies the causes, symptoms and (negative) consequences of the problem and one’s own (negative) thoughts and feelings rather than generating and enacting solutions to the problem. The person is stuck on their experience of the event and maximizes the meaning and severity of the problem.

- remains fixated on the causes and (negative) consequences of the problem, including detailed reflections on what the problem is, why it is a problem and how severe the problem is (rather than generating solutions and considering how to enact solutions)
- perseverating on personal thoughts and feelings, including restating thoughts, feelings and concerns (e.g., expressing the same sentiments repeatedly in different ways), going over the same issues or around in circles regarding causes and consequences (and perhaps conveying that the partner ‘just doesn’t understand’), and not moving forward when partner changes focus or offers solutions
- pessimistic appraisals, such as offering more negative interpretations of the problem and the partner’s response than is justified and expressing more pessimistic expectations regarding potential solutions.

NB. For mothers, this is different than normative parenting practices of reiterating the same stance in an attempt to “teach” the child. Rather, repetitive problem engagement involves perseverating on the problem, with no attempt of resolution.

Self-focused orientation: Contributions to the discussion and any problem-solving are focused on the self or the self-vis-à-vis the relationship, such as:

- discussions revolve around the person’s own perspective and how the problem affects the self (rather than consequences for the partner).
- evident desire or need for the partner to understand, accept and agree with the person’s own perspective (and little evidence the person is trying to understand or adopt the partner’s perspective).
- This can also include invalidations of the partner’s opinions or contributions in order to emphasise one’s own perspective of the event.
- Sharing of own perspective without integration or acknowledgement of partner’s perspective (e.g., a “monologue” of details regarding the person’s own experience of the event).

Hyper emotion expression: Person's *emotions are clear*, directly expressed, emotions *may appear exaggerated*, and conversation seems to be flooded by (negatively focused) emotional content (*refer to definition of "emotion talk" at end of schedule*)

- emotion-focused dialogue, including considering how the problem and the partner's behaviour makes the person feel, questioning the partner about his/her feelings, seeking emotional responses from the partner, and discussion generally imbued with emotional tone
- Indicators of emotion are obvious and perhaps exaggerated, either purposively (see next point) or because the person is overwhelmed by his/her emotions and is having difficulty controlling their emotions and emotional expressions
- verbal emphasis on words that exaggerate feelings or negative consequences surrounding the issue (e.g., "do you even *care*?", "I *really* think that...")

Strategy C

This category involves acknowledging the problem, active efforts to collaboratively make progress towards resolving the problem, and open and self-assured disclosure of thoughts, opinions and emotions. Low-to-moderate levels of strategy C may include acknowledgement of the problem, offers discussion of causes and consequences, collaborative efforts to solve or deal with the problem, and a general open and warm manner. Higher levels of strategy C are also likely to incorporate efforts to engage in reflection and reappraisal of the problem to accommodate both partners' views, a reciprocal approach to elaborating on details of the event: providing details as well as eliciting/inviting partner's opinions, greater focus on the unit working together to resolve the issue (discussion of causes and consequences with a resolution offered), disclosing one's thoughts or feelings without being overwhelmed by 'negative' emotions or 'negative' emotions interrupting the flow of the discussion. Overall the memory is co-constructed with both perspectives integrated.

Collaborative engagement: Encouraging an equal platform for the *self and partner* by accepting *joint responsibilities*, *encouraging the partner's contribution* to the discussion and problem solving, and operating as a '*team*' including:

- Engages in discussion by reflecting on and exploring the issue/problem
- Invites partner to contribute perspective as well as effectively communicating own point of view.
- Respects the partner's perspective when they share their ideas and opinions, such as giving them space to talk, asking explorative (open) questions (e.g., what, who, how, when).
- acknowledging one's own part in the problem and what s/he can do to change and recognizing the partner's role and potential actions without blame and acrimony
- accepting, validating and acknowledging the partner's position and attempting to understand the partners views (regardless of whether the self agrees with the partner). Includes providing minimal verbal encouragements such as "mhmm", "yup".
- approaching solutions to the problem as a team (e.g., 'we', 'us', 'our').

Approach-orientated problem-solving: Resolution focused including *constructive and direct* efforts to *move forward* and solve or cope with the problem including:

- active and constructive efforts to problem-solving, including assessing (but not dwelling on) causes and consequences, offering realistic and achievable solutions, accepting suggestions offered by the partner (i.e., *not* taking over and solving the problem without the partner's input).
- reframing and reappraising problem in ways that reduce any threat or 'negativity' the problem may pose and convey the problem can be dealt with/solved (e.g., benign interpretations of the problem, construing as a challenge rather than a vulnerability, seeing the positives in the situation, viewing as an opportunity to strengthen the relationship, recognizing improvements)

Balanced emotion: Open and self-assured *expression and acknowledgement* of emotions and feelings without being afraid of conflict or allowing the emotion to take over the interaction. The person is comfortable discussing their own and their partner's emotions (*refer to definition of "emotion talk" at end of schedule*).

- open expression and acknowledgement of own emotions, without negative emotions overwhelming or disabling the person, dominating or interrupting the flow of the discussion.
- comfortable with discussing emotions, including not being threatened or phased by the partner's negative emotions.
- responsive to any negative emotions partner expresses or seems to be feeling, but not overly responsive (i.e., recognizes partner's emotions, expresses care, but keeps the discussion moving-not dwelling)

General rules:

- **Remember** the fundamental task of reminiscing conversations is the co-construction of a narrative. Therefore, all approaches to "engagement" should be coded with this in mind "to what extent are the pair co-constructing the event?"
- A global code is provided for each individual in the pair on the different variables and strategies.
- Do not count talk about a future event. ONLY code for the talk about the past specific conflict event that was agreed on.
- The design of this coding scheme lends itself to coding content and function simultaneously. This means, when coding the dialogue, consider them in the context of what role they are serving as well as what is being said.
- **"Emotion Talk" definition:** emotional expression discussed in the conversation. This includes the use of emotion words or reference to emotional behaviours (for example laughing, crying). Attempts to elicit emotional experiences (for example "how did that make you feel?") are also included; as well as appraisals of the situation (i.e., hating, bad time, worst etc.).

APPENDIX B: Coding Listener Responses: PPC Coding Scheme

Adapted Coding Listener Responses: PPC (adapted from Haden, 1998) – McLean and Mansfield (2012)

Code only the conversation (and utterances) about the shared memory.

Code the listener responses to everything the teller says. So, you are coding the listener ‘turns’ in the conversations. Note that the listener will switch depending on who is sharing the memory. So, the adolescent will have three turns as listener, as will the mother.

Code parent and adolescent separately for memory detail and evaluations. Therefore, the conversation will be reviewed twice to provide independent scores of memory detail and evaluations for the parent and adolescent, respectively. Counterbalance coding-in half of the pairs, parents will be coded first, and in half the adolescents will be coded first.

Do not code laughter or “ha ha.”

Each set of coders (or group) should keep one transcript with clean markings of the codes for each utterance. A final number of codes should be recorded on the attached sheet for each case (to be used for data entry).

1. Memory details

- a. Elaborations: any memory information that introduces new details about the event, extends on the teller’s contribution of event details, or requests new information. *Moves story forward.*
Elaborations can include: questions asking to provide a *new piece of information*, including the “wh” questions (who, when, what, where); provision of factual information, evaluations, or point of view on the event. Rely on punctuation to separate elaborations. Only code details on topic about the chosen event.
- b. Reiterations: A question that repeats what the teller just said (by exact content or gist), or the question only requires a yes or no answer (i.e., “So you went to the store yesterday?”). Reiterations do not contain any new information i.e., closed statements, comments, questions.

2. Evaluations

- a. Confirmations: These are “mewing statements” (uh-huh, yeah) that indicate *agreement* or confirmation of what the teller is saying or statements of confirmation of support (“you’re right.”). Confirmation can be given by repeating the statement **or** with a yeah, yes etc. The confirmation may be part of a sentence.
- b. Negations: *disagreements* with the teller’s statement (“No, that is not what happened.”). The negation can be part of a sentence.

NB. Coding for confirmations and negation does not rely on punctuation and could be part of a sentence.

Emotion Expression

This code is meant to capture the *extent to which* the mother or adolescent expresses emotional aspects of the experience in telling *memories* to the other person.

Note that the emotion expression has to be about the memory being shared.

Emotion expression is defined, broadly, as any mention of an emotion state or behavior pertaining to the event (i.e., yelling, crying, trembling, hugging etc.). Also code any mention of the cause of the emotional state or behavior.

Emotion expression includes:

Use of emotion word or emotional behaviour such as yelling, crying, trembling, hugging etc.

References to evaluation of event (i.e., bad time) as an emotion

Attempts on the part of the listener to elicit the emotion from the teller, i.e., “How did you feel?”

Code parent and adolescent separately for emotion and resolution. Therefore, the conversation will be reviewed twice to provide independent scores of emotion and resolution for the parent and adolescent, respectively. Counterbalance coding - in half of the pairs, parents will be coded first, and in half the adolescents will be coded first.

Emotion expression is coded on a scale of 1 to 5. The coder must capture the extent to which the reporter expresses emotion in their narrative to choose a score from 1 to 5.

Code	Definition
1	Lack of emotion expression. These stories will likely either be action-oriented, concerned with facts of what occurred during the event and non-emotional.
2	Represents a small amount of emotion expression that does not overwhelm the story. The feelings experienced from the event is more of a <i>minor</i> detail in the story and they may not go into great detail about the causes of their emotional state.
3	Represents a moderate level of emotion expression. This emotion may be counteracted, or may not be and just lie between a 2 and a 4.

4	Represents high level of emotion expression. The teller is able to report the feelings experienced by the event, the causes of that, but is not completely overwhelmed by it.
5	<p>Represents a story and/or a reporter that/who is completely mired in the emotion aspects of this experience. Majority of event detail concerns emotional elements of the event and the causes of them. Emphasis on the emotions and the extent they were experienced.</p> <p>For example, in describing the event in which her parents got in an accident, her father dies, and her mother's return from the hospital, one mother said, "Now, it's an odd memory because it is very sad, and I was very sad, but also I didn't quite understand exactly how, what that meant...and then I remember my mom came home from the hospital and she was crying, and she just walked right by and into her room, didn't even stop and see me or anything because she was so upset. So, it was just a very, very sad time."</p>

Resolution (adapted from McLean & Mansfield, 2012 – original adaptation from Bird & Reese)

Resolution is defined as reducing the negative strength of the event by offering a solution or a coping strategy such as introducing a positive emotion or a positive meaning (e.g., and it all turned out ok; I learned a lot from that).

[Useful question to keep in mind: Did the individual's narrative succeed at providing a reasonable coping strategy or resolution to both the problem presented and the emotions implied in each storyline?]

Note: if the teller offers a resolution and the listener agrees, the listener would receive a with 2 for their agreement with the suggested resolution; if the listener agrees with the resolution **and** then elaborates on it, that would constitute a 3.

Coded on a 3-pt. scale (1=low 3=high). Higher scores indicated more emotion resolution and coping in the narrative.

Code	Definition
1	No resolution.
2	Attempt at resolution or partial resolution. I.e., brief mention of a coping strategy or resolution to the emotion caused by the situation in the narrative, but there is <i>no elaboration</i> of the resolution.
3	Fully resolved. I.e., there is a clear resolution or coping strategy presented which managed the situation and the emotion resulting from the situation and seemed to be appropriate for the given problem.

APPENDIX C: Supplementary Tables (Study 2)

Table C1. *Structural Equation Modelling Standardised Path Co-Efficients from Maternal and Adolescent Rumination and Anxiety to Maternal and Adolescent Reminiscing Qualities (Strategy A Sub-Strategies).*

Predictor variable	Avoidant/Disengaged						Superficial						Hypo-Emotion					
	Adolescent			Mother			Adolescent			Mother			Adolescent			Mother		
	β	CI	t	β	CI	t	β	CI	t	β	CI	t	β	CI	t	β	CI	t
<i>Adolescent</i>																		
Rumination	-.009	-.315, .311	-.058	-.300	-.596, .002	-2.011	-.064	-.370, .238	-.431	-.262	-.555, .040	-1.718	.036	-.260, .340	.241	-.147	-.445, .137	-.998
Anxiety	.016	-.318, .289	.109	.338*	.037, .624	2.312	.064	-.261, .358	.439	.227	-.067, .521	1.520	.105	-.218, .372	.725	.314*	.015, .593	2.169
<i>Mother</i>																		
Rumination	-.215	-.478, .060	-1.610	-.165	-.421, .116	-1.227	-.268	-.506, .039	-1.993	-.169	-.436, .102	-1.231	-.287*	-.535, -.018	-2.148	-.307*	-.559, -.035	-2.315
Anxiety	.397*	.128, .641	3.043	-.060	-.305, .218	-.460	.341*	.077, .591	2.600	.035	-.240, .286	.261	.346*	.066, .582	2.657	.090	-.176, .328	.691

Note. The independent variables are adolescent and maternal levels of anxiety and rumination. Adolescent and maternal reminiscing qualities (strategy A sub-strategies) represent the dependent variables. Note. * represents significant effects ($p < .05$).

Table C2. *Structural Equation Modelling Standardised Path Co-Efficients from Maternal and Adolescent Rumination and Anxiety to Maternal and Adolescent Reminiscing Qualities (Strategy B Sub-Strategies).*

Predictor variable	Repetitive						Self-focused						Hyper-emotion					
	Adolescent			Mother			Adolescent			Mother			Adolescent			Mother		
	β	CI	t	β	CI	t	β	CI	t	β	CI	t	β	CI	t	β	CI	t
<i>Adolescent</i>																		
Rumination	.229	-.094, .531	1.487	.104	-.227, .399	.681	.104	-.207, .417	.677	.122	-.198, .404	.804	.274	-.032, .573	1.795	.189	-.126, .473	1.270
Anxiety	.045	-.287, .344	.300	-.316	-.590, .009	-2.108	.106	-.225, .389	.708	-.326*	-.600, -.022	-2.199	.028	-.294, .311	.190	-.411*	-.667, -.099	-2.823
<i>Mother</i>																		
Rumination	-.095	-.364, .203	-.687	.041	-.240, .309	.301	.001	-.268, .284	.008	-.037	-.316, .229	-.270	-.157	-.419, .122	-1.143	.038	-.233, .301	.284
Anxiety	-.092	-.351, .190	-.681	.139	-.112, .406	1.033	-.231	-.475, .050	-1.715	.246	-.030, .476	1.850	-.031	-.317, .243	-.234	.207	-.067, .440	1.586

Note. The independent variables are adolescent and maternal levels of anxiety and rumination. Adolescent and maternal reminiscing qualities (strategy B sub-strategies) represent the dependent variables. Note. * represents significant effects ($p < .05$).

Table C3. *Structural Equation Modelling Standardised Path Co-Efficients from Maternal and Adolescent Rumination and Anxiety to Maternal and Adolescent Reminiscing Qualities (Strategy C Sub-Strategies).*

Predictor variable	Collaborative						Approach						Balanced emotion					
	Adolescent			Mother			Adolescent			Mother			Adolescent			Mother		
	β	CI	t	β	CI	t	β	CI	t	β	CI	t	β	CI	t	β	CI	t
<i>Adolescent</i>																		
Rumination	.029	-.288, .355	.192	.125	-.211, .421	.818	-.016	-.338, .309	-.103	.105	-.229, .398	.673	-.138	-.440, .177	-.898	.122	-.189, .418	.822
Anxiety	-.146	-.463, .152	-.971	-.075	-.367, .252	-.498	-.076	-.394, .227	-.492	-.107	-.408, .215	-.697	-.082	-.386, .209	-.549	-.167	-.440, .148	-1.142
<i>Mother</i>																		
Rumination	.247	-.042, .501	1.790	.163	-.122, .429	1.188	.098	-.198, .378	.688	.156	-.131, .425	1.109	.217	-.066, .494	1.571	.219	-.054, .478	1.632
Anxiety	-.172	-.416, .115	-1.276	-.266	-.494, -.001	-1.983	-.060	-.329, .223	.434	-.134	-.394, .120	-.978	-.207	-.469, .059	-1.540	-.316*	-.543, -.061	-2.413

Note. The independent variables are adolescent and maternal levels of anxiety and rumination. Adolescent and maternal reminiscing qualities (strategy C sub-strategies) represent the dependent variables. Note. * represents significant effects ($p < .05$).

Table C4. *Structural Equation Modelling Standardized Regression Path Coefficients from Maternal and Adolescent Rumination, Anxiety and Depression to Maternal and Adolescent Reminiscing Qualities (Global Strategies).*

Predictor variable	Strategy A						Strategy B						Strategy C					
	Adolescent			Mother			Adolescent			Mother			Adolescent			Mother		
	β	CI 95%	t	β	CI 95%	t	β	CI 95%	t	β	CI 95%	t	β	CI 95%	t	β	CI 95%	t
<i>Adolescent</i>																		
Rumination	.007	-.282, .303	.046	-.187	-.489, .123	-1.245	.198	-.147, .478	1.299	.111	-.214, .413	.726	-.007	-.325, .306	-.044	.134	-.176, .450	.880
Anxiety	-.110	-.476, .236	-.643	.318	-.035, .707	1.822	-.039	-.385, .372	-.217	-.285	-.640, .071	-1.609	.075	-.288, .420	.424	-.160	-.528, .187	-.905
Depression	.116	-.208, .437	.731	-.103	-.451, .214	-.641	.190	-.162, .526	1.156	-.034	-.386, .304	-.205	-.241	-.584, .096	-1.478	.042	-.298, .374	.256
<i>Mother</i>																		
Rumination	-.222	-.508, .062	-1.597	-.194	-.471, .113	-1.372	-.093	-.379, .204	-.649	-.041	-.321, .264	-.286	.225	-.062, .517	1.574	.248	-.054, .526	1.731
Anxiety	.472*	.141, .745	3.087	.056	-.283, .379	.357	-.107	-.428, .215	-.681	.148	-.197, .450	.936	-.273	-.556, .068	-1.734	-.150	-.472, .190	-.954
Depression	-.154	-.450, .191	-.972	-.080	-.413, .271	-.497	-.056	-.396, .306	-.343	.108	-.234, .428	.662	.196	-.173, .517	1.207	-.162	-.474, .190	-.991

Table presenting actor and partner effects. The independent variables are adolescent and maternal levels of rumination, anxiety and depression; and adolescent and maternal reminiscing qualities (global Strategies A, B, C) represent the dependent variables. Bootstrapped confidence intervals. Note. * represents significant effects ($p < .05$).

Table C5. *Structural Equation Modelling Standardized Path Co-efficients from Maternal and Adolescent Rumination, Anxiety and Depression to Maternal and Adolescent Reminiscing Qualities (Strategy A Sub-Strategies).*

Predictor variable	Avoidant/Disengaged						Superficial						Hypo-Emotion					
	Adolescent			Mother			Adolescent			Mother			Adolescent			Mother		
	β	CI 95%	t	β	CI 95%	t	β	CI 95%	t	β	CI 95%	t	β	CI 95%	t	β	CI 95%	t
<i>Adolescent</i>																		
Rumination	-.016	-.321, .298	-.108	-.297	-.576, .024	-1.983	-.070	-.372, .239	-.471	-.248	-.534, .068	-1.649	.030	-.276, .347	.199	-.130	-.429, .170	-.887
Anxiety	-.090	-.449, .278	-.527	.373*	-.015, .715	2.142	-.029	-.371, .342	-.167	.225	-.173, .560	1.284	.031	-.333, .383	.180	.378*	.028, .716	2.226
Depression	.153	-.137, .490	.964	-.054	-.373, .298	-.334	.130	-.167, .468	.814	-.065	-.382, .266	-.402	.112	-.203, .434	.702	-.159	-.477, .172	-1.014
<i>Mother</i>																		
Rumination	-.200	-.464, .107	-1.442	-.166	-.444, .132	-1.180	-.251	-.508, .075	-1.796	-.106	-.396, .182	-.748	-.281*	-.537, .036	-2.012	-.255	-.533, .035	-1.856
Anxiety	.463*	.160, .751	3.038	-.076	-.377, .255	-.492	.406*	.086, .699	2.639	.148	-.188, .473	.949	.385*	.070, .682	2.510	.159	-.159, .480	1.049
Depression	-.154	-.490, .157	-.977	.040	-.287, .380	.251	-.146	-.475, .169	-.920	-.199	-.528, .135	-1.233	-.094	-.455, .214	-.593	-.098	-.397, .233	-.629

Table presenting actor and partner effects in follow-up sub-strategy A analyses. The independent variables are adolescent and maternal levels of rumination, anxiety and depression; and adolescent and maternal reminiscing qualities (strategy A sub-strategies) represent the dependent variables. Bootstrapped confidence intervals. Note. * represents significant effects ($p < .05$).

Table C6. Structural Equation Modelling Standardized Path Co-efficients from Maternal and Adolescent Rumination, Anxiety and Depression to Maternal and Adolescent Reminiscing Qualities (Strategy B Sub-Strategies).

Predictor variable	Repetitive						Self-focused						Hyper-emotion					
	Adolescent			Mother			Adolescent			Mother			Adolescent			Mother		
	β	CI 95%	t	β	CI 95%	t	β	CI 95%	t	β	CI 95%	t	β	CI 95%	t	β	CI 95%	t
<i>Adolescent</i>																		
Rumination	.213	-.117, .504	1.394	.100	-.201, .429	.653	.083	-.231, .382	.549	.118	-.190, .433	.780	.270	-.053, .593	1.766	.185	-.123, .487	1.250
Anxiety	-.062	-.425, .325	-.350	-.325	-.670, .045	-1.816	-.059	-.415, .327	-.338	-.282	-.644, .077	-1.607	-.025	-.396, .351	-.143	-.361*	-.696, -.022	-2.101
Depression	.196	-.116, .530	1.195	.029	-.291, .381	.175	.287	-.031, .631	1.773	-.027	-.334, .309	-.168	.078	-.248, .406	.477	-.034	-.354, .294	-.216
<i>Mother</i>																		
Rumination	-.118	-.397, .190	-.822	.027	-.281, .318	.186	-.020	-.291, .280	-.144	-.077	-.370, .227	-.543	-.150	-.428, .158	-1.044	-.004	-.288, .287	-.028
Anxiety	-.093	-.402, .233	-.587	.116	-.220, .443	.729	-.207	-.518, .132	-1.331	.157	-.191, .460	1.008	.001	-.316, .336	.007	.113	-.201, .431	.741
Depression	-.036	-.376, .297	-.221	.038	-.307, .375	.228	-.100	-.438, .224	-.619	.171	-.166, .492	1.060	-.076	-.439, .238	-.462	.182	-.136, .512	1.149

Table presenting actor and partner effects in follow-up sub-strategy B analyses. The independent variables are adolescent and maternal levels of rumination, anxiety and depression; and adolescent and maternal reminiscing qualities (strategy B sub-strategies) represent the dependent variables. Bootstrapped confidence intervals. Note. * represents significant effects ($p < .05$).

Table C7. *Structural Equation Modelling Standardized Path Co-Efficients from Maternal and Adolescent Rumination, Anxiety and Depression to Maternal and Adolescent Reminiscing Qualities (Strategy C Sub-Strategies).*

Predictor variable	Collaborative						Approach						Balanced emotion					
	Adolescent			Mother			Adolescent			Mother			Adolescent			Mother		
	β	CI 95%	t	β	CI 95%	t	β	CI 95%	t	β	CI 95%	t	β	CI 95%	t	β	CI 95%	t
<i>Adolescent</i>																		
Rumination	.048	-.252, .367	.314	.129	-.170, .444	.846	-.007	-.328, .308	-.043	.102	-.212, .415	.658	-.133	-.437, .187	-.874	.121	-.186, .434	.812
Anxiety	-.013	-.378, .350	-.075	-.112	-.462, .262	-.623	.063	-.309, .434	.345	-.192	-.556, .165	-1.061	.007	-.352, .356	.040	-.189	-.547, .151	-1.086
Depression	-.236	-.546, .103	-1.448	.020	-.301, .363	.125	-.200	-.516, .150	-1.188	.107	-.211, .435	.642	-.119	-.460, .219	-.727	.030	-.304, .354	.184
<i>Mother</i>																		
Rumination	.270	-.014, .562	1.891	.199	-.100, .492	1.389	.078	-.201, .399	.530	.182	-.128, .474	1.243	.195	-.090, .496	1.359	.224	-.068, .502	1.590
Anxiety	-.181	-.490, .143	-1.153	-.187	-.509, .142	-1.188	-.149	-.465, .205	-.920	-.055	-.393, .275	-.344	-.279	-.567, .060	-1.770	-.298	-.607, .037	-1.929
Depression	.063	-.292, .386	.385	-.151	-.475, .182	-.925	.204	-.168, .516	1.219	-.168	-.490, .193	-1.008	.158	-.213, .474	.967	-.038	-.358, .296	-.236

Table presenting actor and partner effects in follow-up sub-strategy C analyses. The independent variables are adolescent and maternal levels of rumination, anxiety and depression; and adolescent and maternal reminiscing qualities (strategy C sub-strategies) represent the dependent variables. Bootstrapped confidence intervals. Note. * represents significant effects ($p < .05$).

