Examining Processes in the Relationship Between Narrative Identity and Psychological Functioning

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Abstract

Theoretical perspectives and empirical evidence support a link between narrative identity and psychological functioning. When examining this relationship, psychological functioning has typically been conceptualised in terms of diagnostic symptoms. As a result, the transdiagnostic psychological processes underpinning the relationship remain largely unexplored. Additionally, recent research proposes that the relationship between narrative identity and psychological functioning may be reciprocal, but research has primarily utilised cross-sectional data or considered characteristics of narrative identity as predisposing factors. The work in this thesis addresses these gaps in the field by examining potential underlying psychological processes and exploring potential reciprocal associations in a sample of young adults. In the first study, a systematic review was conducted to identify transdiagnostic factors either associated with narrative identity or that mediated or moderated its relationship with psychological functioning. The review comprised 11 studies and revealed mixed findings for the support of rumination, overgeneral memory (OGM), emotion dysregulation, and attachment state of mind as transdiagnostic factors that may be uniquely associated with narrative identity or mediate or moderate the relationship between narrative identity and psychological functioning. In the second study, 245 university students were recruited to investigate the mediating and moderating effects of the identified transdiagnostic factors. Findings revealed that rumination and emotion dysregulation, but not OGM, mediated the relationship between lower causal coherence and psychological functioning. Surprisingly, neither attachment state of mind nor memory tone moderated any relationships between narrative identity and psychological functioning. The third study examined associations between narrative identity as measured by causal coherence and psychological processes utilising the Research Domain Criteria (RDoC) systems, using the same

sample of 245 participants at Time 1 and a returning 88 participants at Time 2 (6 months later). Structural equation modelling revealed concurrent and longitudinal negative associations between difficulties in the negative valence system and causal coherence. Furthermore, lower causal coherence predicted later difficulties in the arousal/regulatory system. However, difficulties in the social processes system showed no such associations. The final study investigated the relationship between identification with psychopathology in turning point narratives and psychopathology symptoms. This study utilised the 245 community young adults from studies two and three, as well as 30 in-patient clinical young adults. A novel coding scheme was developed to tap identification with psychopathology within turning point narratives. Findings revealed that higher identification with psychopathology was associated with higher symptoms of depression, anxiety, BPD, rumination and emotion dysregulation. Multinomial regression analysis revealed that identification with psychopathology predicted an individual belonging to the symptoms or diagnosis group above and beyond measures of psychopathology. Moderation analyses revealed that the interaction between identification with psychopathology and belonging to the community group predicted depression, but not for the symptoms or diagnosis nor the clinical group. Overall, this thesis provides crucial insights into the dynamic relationship between narrative identity and psychological functioning, emphasising the significance of cognitive and emotional processes such as rumination and emotion dysregulation. Furthermore, this thesis introduces identification with psychopathology as a potentially important aspect of narrative identity. Understanding these complex relationships can lead to the development of personalised and targeted interventions with greater responsivity. Future longitudinal research that incorporates a range of narrative identity, transdiagnostic, and psychological functioning variables is recommended.

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Certification

I, Monique Corbett, confirm that this thesis presented to fulfil the criteria for the award of the Doctor of Philosophy (Psychology) degree from the University of Waikato is entirely my original work, except where explicitly referenced or acknowledged. I have not submitted this document for assessment at any other educational institution.

Monique Corbett

08/01/2024

Formatting Statement

The formatting of this dissertation includes a compilation of journal articles. Although Chapter 1 is the general introduction and Chapter 6 is the general discussion, Chapters 2 - 5 correspond to manuscripts under the review process in peer-reviewed journals. All manuscripts have been standardised to a consistent style for this thesis, following the American Psychological Association (APA) 7th Style guidelines.

Statement of Contribution of Others

This statement of authorship identifies the nature and extent of contribution of the PhD candidate and all co-authors for chapters based on journal articles.

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Author	**Contributions**
MC	Conceptualisation Data Management Investigation Methodology Formal Analysis Writing – original draft Writing – review & editing
ALB	Conceptualisation Supervision Methodology Data Analyses Formal Analysis Writing – review & editing
VRR	Conceptualisation Supervision Writing – review & editing

List of Publications and Presentations

Publications

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Presentations

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Chapter 1: Thesis Introduction

Preamble

In our increasingly connected world, there is growing thought given to answering questions such as “Who am I?” and “What is my role in the world?” As individuals attempt to answer these questions, they actively shape their own developing narrative identities. Narrative identity is an individual’s “internalised and evolving life story integrating the reconstructed past and imagined future to provide life with some degree of unity and purpose” (McAdams & McLean, 2013, p. 232). The theoretical foundations of narrative identity may also be helpful in understanding individual differences in psychopathology and well-being (Erikson, 1968; Klimstra & Denissen, 2017; Marcia, 1966; McAdams, 1989). These theoretical perspectives are supported by empirical evidence that shows relationships between narrative identity and aspects of psychological functioning, such as depression (Baerger & McAdams, 1999), anxiety (Vanaken, Smeets, et al., 2021), borderline personality disorder (BPD) (Bendstrup et al., 2021) and well-being (Adler et al., 2016). Despite theoretical and empirical support for a relationship between narrative identity and psychological functioning, our understanding of the underlying psychological processes of the relationship remains limited (Klimstra & Denissen, 2017). Understanding these processes is crucial for further developing narrative identity theory and enhancing clinical practices in the intervention and treatment of psychopathology (Kazdin, 2007; Windgassen et al., 2016). The present thesis aims to explore the relationship between narrative identity and psychological functioning in young adults (ages 18-39 years) across four studies.

Identity

Identity is an underpinning construct of narrative identity (McAdams, 1985). Identity is a multifaceted concept encompassing various aspects of an individual's self-concept and is the foundation of many behaviours and cognitions (Guenther et al., 2020). Identity construction is influenced by internal factors such as thoughts, emotions, goals, and self-reflection and external factors such as social roles, responsibilities, and group affiliations (Guenther et al., 2020). Although multiple conceptualisations of identity exist (Leary & Tangney, 2011), consistent across most is the perspective that identity is a dynamic and evolving psychological process. From the initial conceptualisation of identity (Erikson, 1968), a wealth of empirical evidence has continued to evolve and refine our understanding of the identity development process. One line of theory and research on identity that is particularly relevant to this thesis is the relationship between identity and psychological functioning.

Erikson's Psychosocial Theory of Development

Theoretical work on identity by Erikson (1968) has been highly influential in shaping the current understanding of the relationship between identity and psychological functioning (Guenther et al., 2020). Grounded in psychoanalytic theory, Erikson (1968) proposed a framework for understanding human development that consists of eight psychosocial stages. These psychosocial stages were developed based on observations of common challenges and recurring patterns experienced throughout the human lifespan. The *identity versus role confusion* stage is most relevant to identity formation and occurs during adolescence (Erikson, 1950). Notably, a significant portion of Erikson's (1968) work was based on clinical observations and studies of human development. For example, while working with World War II veterans, Erikson observed veterans suffering from what he believed to be an identity crisis (Guenther et al., 2020).

He described the veterans as experiencing the loss of "a sense of personal sameness and historical continuity" (Erikson, 1968, p. 17). By recognising the dynamic interactions between individual, social, and cultural factors, Erikson's framework provides a robust foundation for understanding the relationship between identity and psychological functioning.

Erikson (1968) proposed that psychological functioning is most under threat during the identity versus role confusion stage due to the challenges adolescents face as they pursue their identities. Given that adolescence is characterised by rapid changes in biological and cognitive functioning, accompanied by social factors that allow for greater autonomy (Erikson, 1950; Erikson, 1968), Erikson perceived adolescence as a period when individuals begin to consider how they might function independently in the world. From this perspective, adolescents attempt to navigate specific tasks while striving to find a balance between individual desires and societal expectations. Individuals who successfully navigate this process will likely acquire positive traits and qualities. In contrast, individuals unable to navigate the process will likely experience identity confusion, whereby they may not experience a sense of purpose or meaning in their life or know 'who they are.' As such, Erikson (1968) proposes that these individuals are more susceptible to experiencing emotional challenges or difficulties with psychosocial functioning.

Marcia's Identity Status Theory

Building on Erikson's (1968) psychosocial theory of development, Marcia's (1966) identity status theory describes and categorises identity into four distinct states: identity diffusion, identity foreclosure, identity moratorium, and identity achievement. According to Marcia, identity development entails exploring different aspects of identity in adolescence and eventually committing to a specific identity. The four categories reflect different levels of exploration and commitment. Individuals in the identity diffusion state are considered to have

had minimal or no exploration of their identity and have not made any firm commitments in this regard. Those in the identity foreclosure state are considered prematurely committed to an identity without exploring alternative options. In comparison, individuals in the identity moratorium state actively explore different identities but have not made any firm commitments. Lastly, identity achievement is the identity status of individuals who have explored various possibilities and made firm commitments based on personal values and beliefs (Marcia, 1966).

Marcia (1966) also theorised that identity is closely intertwined with psychological functioning. Marcia proposed that an individual's psychological functioning is associated with their progress through the different statuses of identity and the extent to which individuals explore and commit to their identity. For example, individuals in the identity achievement state will likely exhibit greater psychological well-being, self-esteem, and overall adjustment, reflecting successful navigation of the exploration-commitment process. In contrast, individuals in identity diffusion or foreclosure statuses may face challenges in psychological functioning, such as lower self-esteem, confusion regarding their identity, and difficulties in decision-making. Essentially, Marcia proposed that one's identity status plays a vital role in influencing psychological outcomes, and a wealth of empirical evidence has shown support for this perspective (Crocetti et al., 2009; Dumas et al., 2009; Naidoo et al., 2006; Sandhu et al., 2012).

Narrative Identity Theory

Moving beyond the static approach of categorising identity into statuses, McAdams's (1985) narrative identity theory attempts to encapsulate the complexity and fluidity involved in identity development. As mentioned, narrative identity is defined as "a person's internalised and evolving life story" (McAdams & McLean, 2013, p. 232). According to McAdams (1996), personality traits and characteristic adaptations provide some explanation for personality (Buss,

1991; McCrae & Costa, 1987), but they do not fully account for the influence of socio-cultural factors. McAdams (1996) introduced the concept of narrative identity as a 'modern-day' aspect of personality that focuses on how we understand our lives within our socio-cultural environment. This idea arises from the notion that increasing globalisation prompts us to ask questions such as "Who am I?" and "What is my role in society?" McAdams (1996) proposes that to answer these questions, we use storytelling (both internally and externally in social interactions) to integrate the view of the self with unity and purpose. Essentially, our narrative identity, which develops throughout our lives, becomes a part of our personality.

At least two prominent factors are believed to influence narrative identity over the lifespan. The first is the developmental trajectory of the life story narrative (McAdams, 1996). During childhood, the narrative self is still consolidating (Bird & Reese, 2006). As individuals move into adolescence, they experience a time of identity turbulence and construction, during which the ability to integrate one's view of self with unity and purpose is most under threat. Narrative identity is most in flux during this developmental period due to the number of biological, psychological, and social adjustments adolescents face (McAdams, 1996). In young adulthood, narrative identity stabilises as individuals make identity commitments and become established in roles such as enrolling in higher education or raising a family.

The second prominent influence on narrative identity is the broader socio-cultural environment, referred to by McAdams and McLean (2013) as the degree to which narrative identity is co-authored. The stories our parents share (McLean & Jennings, 2012) and cultural scripts about gender roles (McLean et al., 2019) are two examples of the wider contexts that can influence our developing narrative identities. As with Marcia's (1966) identity statuses, characteristics of narrative identity have also been considered relative to several areas of

psychological functioning (Adler et al., 2016; Adler et al., 2015; McAdams et al., 2001).

Approach to Narrative Identity Research

McAdams (1985, 2008a) developed the Life Story Interview (LSI) to measure narrative identity. Through semi-structured prompts, participants are asked to share the story of their lives. Firstly, they are asked to organise their life into chapters and then answer a series of questions related to key life events, their life in the future, challenges they have experienced, personal beliefs, and overall themes of their life story. A commonly used abbreviated version of the LSI relevant to this research is to ask participants about a turning-point event they have experienced (Adler et al., 2017). Turning-point events are particularly salient to narrative identity because they elicit more than just an episodic memory (Adler et al., 2017). They are seen as significant events likely central to the individual's life story, designed to elicit the degree to which an individual undergoes a substantial change (McAdams, 1993). Bruner (1994) suggests that turning-point events are vital for personal growth because *how* we tell these stories is more important than the events themselves. Turning point narratives, which focus on self-reflection and moments of self-discovery or important life choices, are valuable for studying narrative identity development (Bruner, 1994).

The stages of narrative research involve several important considerations (Adler et al., 2017). First, researchers must develop hypotheses and/or exploratory research questions. Next, they can interview participants or collect written narratives by using existing prompts or creating new ones. To prepare the narratives for coding, researchers transcribe and anonymise the narratives. A coding framework is then developed or adapted, and initial inter-rater reliability is established before coding the complete dataset. Finally, the data is reported using relevant descriptive and inferential statistics as well as excerpts where possible (Adler et al., 2017). Given

the important considerations that the researcher must make at the different stages, it is unsurprising that heterogeneity exists in how research on narrative identity is approached (Adler 2016).

In an attempt to address the heterogeneity in the field, Adler et al. (2016) conceptualised an organisational framework for narrative research which includes coding methods. (Adler et al., 2017; Adler et al., 2016). The organisational framework considers four broad categories of analysis. These encompass structural elements like the coherence level in a narrative, autobiographical reasoning, such as the extent of meaning-making in a story, affective themes exampled by redemption sequences, and motivational themes such as the degree of agency in a narrative. In a recent study, McLean et al. (2019) considered the framework introduced by Adler et al. (2016) and found support for 3 narrative categories. These narrative categories were (1) structural aspects, (2) autobiographical reasoning and (3) motivational and affective themes. Across the four studies within this thesis, coding frameworks that tap the structural (causal coherence), affective themes (redemption) and autobiographical reasoning (identification with psychopathology) are addressed.

Coding Causal Coherence.

The coding framework of causal coherence is considered the main structural component measured when researching an individual's narrative identity (Baerger & McAdams, 1999). Reese et al. (2011) reviewed various coding approaches for narrative coherence and subsequently introduced a new coding scheme, the Narrative Coherence Coding Scheme (NaCCS), which assesses coherence in narratives based on three dimensions: context, chronology, and theme. Of primary interest to this thesis is the adapted version of the NaCCS developed for coding causal coherence in turning-point narratives. Causal coherence in a turning

point narrative is defined as the degree to which the narrative "has contributed to the current self, either in the form of a personality change or a change in perspective" (Mitchell et al., 2020, p. 19). It is proposed that possessing a coherent and well-integrated narrative gives individuals a sense of purpose, continuity, and understanding of their own lives and, as such, greater psychological functioning (Baerger & McAdams, 1999). Causal coherence has been examined in relation to several measures of psychological functioning, including depression (Baerger & McAdams, 1999), anxiety (Vanaken & Hermans, 2020), BPD (Bendstrup et al., 2021) and well-being (Mitchell et al., 2020).

Coding Redemption.

The redemption coding framework is considered one of the prominent approaches to measuring thematic aspects of an individual's narrative identity (McAdams & McLean, 2013). Initially conceptualised by McAdams et al. (1997), redemption is defined as the degree to which the narrator " depicts a transformation from a bad, affectively negative life scene to a subsequent good, affectively positive life scene" (McAdams et al., 2001, p. 1). Considering that life involves both positive and negative events, the temporal and causal dimensions of the narrator's recall are crucial to understanding the meaning of the experience (Adler et al., 2016). Individuals who possess a narrative with redemptive qualities, who can interpret past difficulties as opportunities for positive growth and finding meaning amid adversity, tend to exhibit better adjustment, health, and coping abilities (McAdams et al., 2001). Redemption sequences are commonly coded within turning-point narratives (Bauer et al., 2019; McAdams et al., 2001) and have been examined in relation to several psychological functioning measures, including depression (McAdams et al., 2001) and well-being (McAdams et al., 2001). As such, redemption is also a narrative coding framework of primary interest to this thesis.

Narrative Identity and Associations with Modern-Day Psychological Functioning

By considering the theoretical background of narrative identity, we can begin to understand why narrative identity might be related to psychological functioning. McAdams's (1985) narrative identity theory extends Erikson's (1950) psychosocial development theory by proposing that identity development is not as simple as the presence or absence of conflict during adolescence. Rather, McAdams (1985) theorised that identity development is a lifelong process susceptible to disturbances. The lifelong process involves finding unity, purpose, and meaning in life and constructing a coherent story (McAdams, 1985). McAdams infers that individuals who lack unity, purpose and meaning in life are more likely to experience psychopathology-related cognitive processes. Importantly, McAdams (1985) recognises the limitations of narrative identity in explaining all psychopathologies, such as psychotic delusions and phobias. Rather he proposes that narrative identity speaks to the psychological functioning associated with how individuals make sense of their life related to modern-day living.

What then constitutes psychological functioning related to modern-day living? To answer this question, two considerations are seen as important: Firstly, the prevalence rates of psychopathologies in the modern-day world, and secondly, psychopathologies that are characterised by a lack of unity, purpose, and meaning in life. In line with our first consideration, depression and anxiety are currently two of the most prevalent mental health conditions worldwide (Racine et al., 2021; Twenge et al., 2019). Rates are also observed to be escalating among adolescents and emerging adulthood cohorts (Racine et al., 2021; Twenge et al., 2019). The prevalence rates of depression and anxiety have been attributed to many factors associated with modern-day living, including the effects of increasing urbanisation (Bhugra & Mastrogianni, 2004), the perceived rise in daily stressors (Almeida et al., 2020), the impact of

technology (Primack et al., 2017) and the reduced stigma around mental health potentially meaning that more individuals are seeking help and receiving diagnoses (Evans et al., 2023).

In line with our second consideration, depression, anxiety, and BPD are psychopathologies that could be considered as characterised by a lack of unity, purpose, and meaning in life. Depression often involves negative thoughts about the self, the world and the future (Gotlib & Joormann, 2010), while catastrophic thinking about future outcomes is a common feature of anxiety disorders (Curtiss et al., 2021). A core feature of BPD is identity disturbance, whereby the individual's self-image or sense of self is inconsistent or changing in response to stressors (Barlow et al., 2018). As such, we are interested in examining depression, anxiety, and BPD as measures of psychological functioning related to modern-day living. Consistent with our theoretical rationale, empirical evidence has shown support for associations between narrative identity and depression (Alea et al., 2010; Baerger & McAdams, 1999; Banks & Salmon, 2018; Lind, 2022), anxiety (Banks & Salmon, 2018) and BPD (Bendstrup et al., 2021; Lind et al., 2019; Sajjadi et al., 2021).

The final measure of psychological functioning, which is of interest to this thesis, is well-being. Several theorists have conceptualised well-being differently over time (Ruggeri et al., 2020). The World Health Organization (2018) considers positive mental health a thriving state whereby individuals recognise their capabilities, engage in meaningful and productive work, effectively manage typical life stressors, and contribute positively to their community. This understanding of well-being extends beyond the mere absence of mental illness and includes the perception that one's life is progressing positively. Well-being is the most frequently examined factor in relation to narrative identity, both as a correlated variable and as an outcome measure (Adler et al., 2016). Although strong empirical support exists for a relationship between narrative

identity and depression, anxiety, BPD, and well-being, little is understood about the psychological processes that may impact the relationship. As such, understanding the processes that could impact the relationship is the focus across all studies in this thesis.

Limitations of the Diagnostic Approach

In understanding the complex and causal relationships between identity and psychological functioning, the latter has typically been conceptualised as different forms of psychopathology within a diagnostic framework (Barlow et al., 2018). Although the diagnostic approach proves useful in the classification and categorisation of psychopathology, the approach has inherent limitations (Frank & Davidson, 2014). Firstly, the diagnostic approach focuses on symptomatology and the presence or absence of specific criteria in order to meet the diagnostic threshold (American Psychiatric Association, 2022). As such, the complexity and individual uniqueness of psychological experiences are often overlooked (Frank & Davidson, 2014). For example, the diagnosis may disregard important contextual factors, such as personal history (e.g., abuse) and subjective experiences (e.g., hardship associated with poverty), that contribute to psychological functioning (Barlow et al., 2018). This limitation may be particularly problematic when examining associations with narrative identity, which is inherently nuanced, subjective, and informed by an individual's unique history. Secondly, relying solely on diagnostic labels can lead to a reductionistic view of psychopathology, which could overlook the complex interactions between shared underlying psychological processes (e.g., negative attention bias) or comorbidities (Dalgleish et al., 2020). Lastly, the diagnostic approach may overlook the dynamic nature of psychological functioning (Dalgleish et al., 2020). In this instance, the diagnostic approach may fail to capture fluctuations in an individual's functioning and experiences across time. The majority of studies that have considered the relationship between narrative identity and

psychological functioning have done so from a diagnostic perspective with primarily cross-sectional studies rather than understanding how this relationship changes over time (Alea et al., 2010; Baerger & McAdams, 1999; Banks & Salmon, 2018; Bendstrup et al., 2021; Lind, 2022; Lind et al., 2019; Sajjadi et al., 2021; Vanderveren et al., 2019). While these findings offer important insights into the relationship, a process-oriented approach may provide additional insight into *how* narrative identity relates to psychological functioning.

Klimstra and Denissen's Theoretical Framework for the Associations between Identity and Psychopathology

Klimstra and Denissen (2017) have put forth a theoretical framework that explores the connection between identity and psychopathology. Inspired by the developmental work of Hermans (2012) and Piaget (1967), in this framework, an individual's identity is considered central in a multidimensional space, where identity is the central and most important aspect. The various elements that define who one is (including beliefs, values, and interests) are at the core of this identity. At the same time, other psychological aspects (such as thoughts, emotions, and behaviours) are positioned around this core. The closer these other aspects are, the more they matter to defining who the person is. Within this multidimensional space, various constructs related to psychological functioning interact internally (within the multidimensional space) and externally (with constructs from the individual's social network). Klimstra and Denissen utilise models of personality and psychopathology to explain the potential pathways between these constructs. These pathways suggest that (1) individual traits associated with identity can predispose someone to develop psychopathology, (2) experiences of psychopathology can lead to identity disturbances, and (3) pathways could exist where a third construct contributes to both identity disturbances and psychopathology. Importantly, an individual's perception of centrality

within the multidimensional space influences how strongly psychopathology is associated with one's identity. For example, someone may perceive their sensitive traits as a weakness, which develops into a self-perception of low self-worth, which becomes intertwined with their identity. As a result, the individual may develop depression and may also perceive their experience of depression as a central part of their identity. Similarly, they may perceive other roles, such as being a mother or a teacher, as less central. Therefore, the connection between identity and depression is maintained over time. Although simplified, this explanation provides insight into the theorised complex and reciprocal relationship among the constructs in the multidimensional space.

Klimstra and Denissen (2017) also emphasise the importance of understanding the mechanisms or processes involved in this relationship. Few studies from various research areas related to identity have explored mechanisms relevant to this interplay (such as mental growth; Rogers and Kegan (1991) and ego development; Noam et al. (1994). In the theoretical work by Klimstra and Denissen (2017), several possible mechanisms are also identified (such as psychological control in parenting, cognitive biases and processes related to identity development) to explain identity formation processes within the multidimensional space and, in turn, the development of psychopathology. However, empirical evidence for psychological mechanisms and processes that could be implicated in the relationship beyond mental growth and ego development is necessary. Nonetheless, Klimstra and Denissen (2017) provide a robust theoretical foundation for empirical research to enhance our understanding of the complex causal relationships between narrative identity and psychological functioning. An interesting and largely unexplored aspect of the relationship between identity and psychological functioning involves investigating how psychopathology content might become a central aspect of one's

identity, an area where theoretical support is growing (Klimstra & Denissen, 2017). As such, considering how identification with psychopathology relates to psychological functioning is an important area for future research and the aim of Study 4.

Coding Identification with Psychopathology.

To measure how identification with psychopathology relates to psychological functioning, a novel coding framework was developed as part of this thesis. We conceptualise identification with psychopathology as situated within the autobiographical reasoning category of narrative identity (Adler et al., 2016; McLean et al., 2019). As termed by Klimstra and Denissen (2017), identification with psychopathology describes the phenomenon whereby individuals incorporate psychopathology-related content as central to their identity. Grounded in identity negotiation theory (Swann & Bosson, 2008), Klimstra and Denissen propose that individuals may identify with dysfunctional cognitive processes and behaviours because they serve a function for them. Klimstra and Denissen acknowledge that narrative approaches could be useful in exploring this complex interplay between identity and psychopathology by focusing on references to psychopathology content in narratives. Therefore, a coding framework that captures identification with psychopathology in turning point narratives is an important area for future research. Consistent with the causal coherence and redemption coding frameworks, we anticipate that the identification with psychopathology framework will likewise show associations with psychological functioning.

Process-Oriented Approach

In line with Klimstra and Denissen's (2017) emphasis on the importance of understanding the processes and mechanisms involved in the relationship between identity and psychological functioning, the scientific community has been increasingly interested in

understanding the processes underlying psychological functioning (Frank & Davidson, 2014). A psychological process is “a series of steps or mechanisms that occur in a regular way – not necessarily a deterministic one - to attain changes in behaviour, emotion, or thought” (Tamayo, 2011, p. 323). The idea of processes and mechanisms has been important in the history of psychology, but different theorists and researchers have approached the concept in different ways (Koch & Cratsley, 2020). This variation is evident when considering the work of leading theorists in psychoanalysis, behaviourism, and cognitive psychology. For example, from a behavioural lens, mechanisms are considered observable behaviour, while from a psychoanalytic lens, mechanisms are seen as unconscious processes (Koch & Cratsley, 2020). The increasing interest in understanding the processes and mechanisms involved in psychological functioning serves to refine existing theories and inform practical applications within the field (Barlow et al., 2018; Frank & Davidson, 2014; Koch & Cratsley, 2020).

One such process that is central to this thesis is the psychological process of storytelling. As outlined in the overview of narrative identity theory, storytelling (both internally and externally in social interactions) to integrate the view of the self with unity and purpose is a psychological process (McAdams, 1996). Given that storytelling in narrative identity involves recalling autobiographical memories, we consider the body of literature on autobiographical memory to provide further insights into the processes and mechanisms involved. For example, “episodic memory, self-reflection, emotion, visual imagery, attention, executive functions, and semantic processes” are all involved in recalling autobiographical memories (Svoboda et al., 2006, p. 1). Essentially, the storytelling of autobiographical memories involves a combination of cognitive, emotional, and social processes (Fivush et al., 2011). Cognitively, individuals recall and reconstruct memories. This process requires cognitive efforts such as memory recall, causal

reasoning and interpretation (Fivush et al., 2011). Emotionally, the memories are impacted by the original experiences and their reconstruction (Williams et al., 2007). Socially, autobiographical memories can be co-constructed (i.e. through mother-child reminiscing) (Fivush et al., 2011) and responses to sharing memories can also impact how the memory is stored and recalled later (Vanderveren et al., 2017).

Processes and mechanisms implicated in the development and maintenance of psychopathologies are commonly referred to as transdiagnostic factors (Fusar-Poli et al., 2019). These are factors which are implicated across a range of psychopathologies. Although a critique of the transdiagnostic approach is that it lacks a theoretical foundation, there is a clear rationale for its utility (Dalgleish et al., 2020). Utilising the transdiagnostic approach to understanding the development and maintenance of psychopathology is important for at least two reasons. Firstly, there is increasing evidence that transdiagnostic factors may explain an individual's mental health status better than specific diagnoses (there is high comorbidity in cross-sectional and longitudinal research to support this) (Nolen-Hoeksema & Watkins, 2011). For example, while rumination is a feature of depression, it can also be a feature of anxiety, post-traumatic stress disorder (PTSD) and personality disorders (Nolen-Hoeksema & Watkins, 2011). While a diagnosis of depression, anxiety, or PTSD can indicate the symptoms a person may be experiencing, such as low mood, it does not explain the underlying causes or factors that sustain that low mood.

Secondly, given transdiagnostic factors are mechanisms or processes, they provide greater insight into what should be targeted in intervention and treatment (Rodriguez-Seijas et al., 2015). In one study that examined the utility of a unified protocol for the treatment of emotional disorders, the results were promising, with significant positive outcomes observed in

both the short and long term (Ellard et al., 2010). Consequently, there has been a rise in the development of interventions and treatments that exhibit greater responsivity to individual needs (Dalgleish et al., 2020). An important first step is identifying potential transdiagnostic factors that could be uniquely associated with narrative identity or mediate or moderate the relationship between narrative identity and psychological functioning, which is the focus of studies 1 and 2. One way to consider transdiagnostic factors is by utilising the Research Domain Criteria (RDoC) framework, which conceptualises psychopathology on a spectrum of psychological and biological dysfunction (Insel et al., 2010).

Research Domain Criteria

The RDoC framework organises transdiagnostic factors that underlie psychopathology into five broad systems: the negative valence system, the positive valence system, the cognitive system, the system for social processes, and the arousal and regulatory system (Cuthbert & Insel, 2013). The transdiagnostic factors within the categories can be analysed at different levels, including behavioural and cognitive levels. Research utilising the RDoC framework has made promising progress in understanding the biological basis of psychopathologies and has connected these findings with existing valid and reliable measures (Cuthbert & Insel, 2013). Therefore, considering the RDoC framework in understanding how narrative identity relates to psychological functioning is a specific focus of this thesis.

Which RDoC domains and corresponding features might be relevant in the psychopathology-narrative identity literature (Adler et al., 2016; Adler et al., 2015; Bendstrup et al., 2021; Dell'Osso et al., 2019; Shiner et al., 2021)? Here, I outline how the following systems might be involved in the association between narrative identity and depression, anxiety, and borderline personality disorder (BPD): the negative valence system, which includes the

transdiagnostic factors of rumination and overgeneral memory (OGM); the arousal and regulatory system which includes the transdiagnostic factor emotion dysregulation; and the system for social processes which includes the transdiagnostic factor of attachment security. In addition to highlighting the importance of a process-orientated approach to understanding the relationship between narrative identity and psychological functioning, Klimstra and Denissen (2017) propose a potential reciprocal relationship between narrative identity and psychological functioning. As such, considering bidirectional pathways of potential associations between transdiagnostic factors and narrative identity is the focus of Study 3.

Negative Valence System

The function of the RDoC negative valence system is to organise responses to adverse circumstances or environments, which include primary responses of fear, anxiety, and loss (National Institute of Mental Health, 2011). The processes associated with the negative valence system are recognised as a common feature in numerous psychopathologies (Hasratian et al., 2022). These processes are characterised by negative emotional states, including sadness and fear, which can be triggered by various internal or external stimuli (Hasratian et al., 2022). Rumination, which is "continuous dwelling on one's negative thoughts and feelings, their causes, and consequences" (Nolen-Hoeksema & Watkins, 2011), and OGM which is a difficulty in "retrieving specific autobiographical memories" (Valentino, 2011, p. 32) are two transdiagnostic factors within the negative valence system. We might expect the negative valence system and, more specifically, rumination and OGM be involved in the relationship between narrative identity and psychological functioning because constructing a narrative identity is considered a primarily cognitive process (Berzonsky, 2004; Berzonsky & Luyckx, 2008; Berzonsky & Neimeyer, 1988; Podd, 1972). For example, on the one hand, it could be possible that engaging

in ruminative or OGM tendencies impairs an individual's ability to construct a coherent narrative. In this instance, either the preoccupation with negative aspects of an experience or the inability to recall specific memories could impact an individual's ability to articulate how life experiences relate to who they are. On the other hand, it could be possible that a lack of unity and purpose in an individual's life makes an individual more susceptible to inadvertently engaging in ruminative thinking or avoiding specific memories that are perceived as negative, which if the pattern of thinking is maintained, could lead to the development of psychopathology.

Arousal and Regulatory System

The function of the RDoC arousal and regulatory system is to activate different neural systems based on contextual information and maintain balance and regulation, including managing energy levels (National Institute of Mental Health, 2012a). The processes associated with the arousal and regulatory system are also recognised as a common feature in numerous psychopathologies (National Institute of Mental Health, 2012a). Emotion dysregulation, defined as "patterns of emotional experience or expression that interfere with goal-directed activity" (Thompson, 2019, p. 805), is a transdiagnostic factor within the arousal and regulatory system. We might expect the arousal and regulatory system, specifically emotion dysregulation, to impact the relationship between narrative identity and psychological functioning because emotional processes are associated with autobiographical memory (Williams et al., 2007). Emotion dysregulation appears to impair the coding and later memory recall of the experience (Tyng et al., 2017), which could be a process that impacts narrative identity. In addition, individuals who lack a sense of unity and purpose may not have a framework to organise emotions (Jørgensen, 2006) and are, therefore, more susceptible to experiencing emotion

dysregulation.

System of Social Processes

The system of social processes facilitates responses in interpersonal settings, including the perception and interpretation of others' actions (National Institute of Mental Health, 2012b). The processes associated with this system are also recognised as a common feature in numerous psychopathologies (Barlow et al., 2018; National Institute of Mental Health, 2012b). Attachment is also considered a transdiagnostic factor within the social processes system. Attachment security refers to a pattern of relationship-specific behaviours whereby a child can turn to their caregiver for safety, comfort, and a supportive foundation when needed (Ainsworth & Bowlby, 1991).

Attachment state of mind refers to an individual's mental representation or internal working model of the relationship (Main et al., 1985). In adulthood, attachment state of mind is measured by examining how a person articulates their early experiences of attachment, most notably using the Adult Attachment Interview (Main et al., 1985). We might expect the social process system and, more specifically, an individual's attachment state of mind to be involved in the relationship between narrative identity and psychological functioning because there is compelling evidence for a strong association between attachment styles and a range of social, emotional, and behavioural outcomes across childhood, adolescence and adulthood (Ainsworth & Bowlby, 1991; Mikulincer & Shaver, 2012; Riggs, Paulson, et al., 2007; Riggs, Sahl, et al., 2007). In line with this perspective, parental scaffolding of emotions has been associated with narrative coherence (Oppenheim & Waters, 1995). Furthermore, the socio-cultural environment is considered inseparable from our understanding of self and behaviour (McLean, Pasupathi, & Mansfield, 2023). Another way that social processes could impact the relationship between

narrative identity and psychological functioning is that an incoherent sense of self may generalise to instability in social relationships, a pattern observed in the development of BPD (Linehan, 1993). Taken together, there is good reason to believe that the RDoC negative valence system with a focus on rumination and OGM, the arousal and regulatory system with a focus on emotion dysregulation and the system of social processes with a focus on attachment could impact the relationship between narrative identity and psychological functioning.

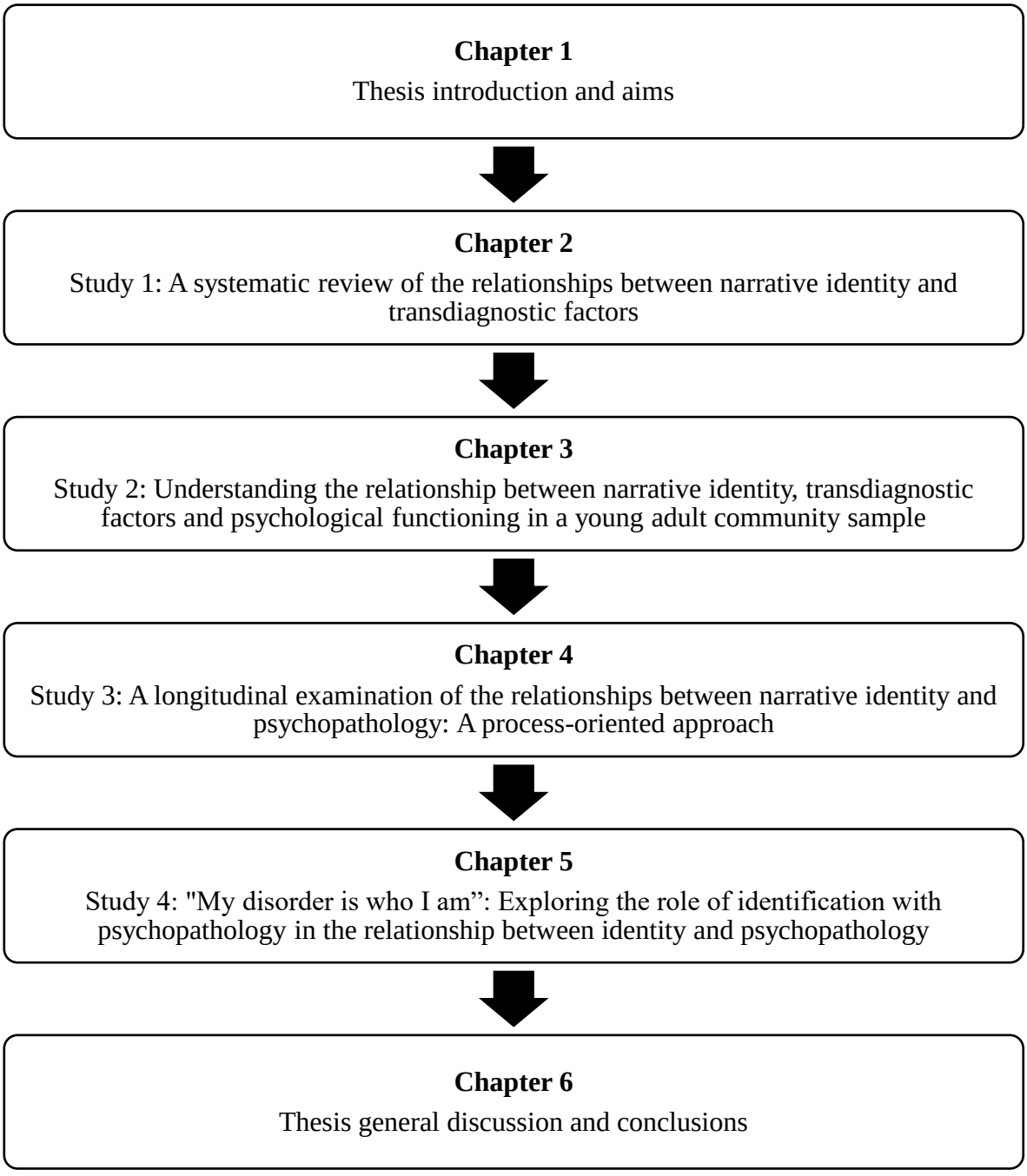
The current research

Although there is a strong theoretical basis to explain the narrative identity and psychological functioning relationship, and the empirical support is growing, several gaps exist. First, very little research has considered associations with psychopathology beyond diagnostic symptoms, and studies have primarily recruited from community populations. Second, while a handful of longitudinal studies have demonstrated associations of earlier narrative identity with later psychopathology trajectories (Adler et al., 2016), most research in this area is cross-sectional. Therefore, it remains unclear whether narrative identity predicts later psychological functioning or whether earlier differences in psychological functioning predict later narrative identity. Third, we know very little about the processes that might impact the associations between narrative identity and psychological functioning (Klimstra & Denissen, 2017). With the rise of globalisation facilitated by technology, there is an expanding recognition that the role of identity in modern-day psychological functioning is more prevalent than ever (McAdams, 1996). Given our understanding of the relationship between identity and psychological functioning, as well as the acknowledged effectiveness of process-oriented research (Frank & Davidson, 2014), investigating the processes related to narrative identity and psychological functioning emerges as an important area of future research.

The overarching aim of this thesis is to understand how narrative identity relates to psychological functioning by examining processes that could help us understand this relationship. In the first study, we conducted a systematic review synthesising the existing literature on narrative identity and transdiagnostic factors and identifying areas for further research. The second study examined the moderating and mediating effects of identified transdiagnostic variables to understand how these might be involved in the relationship between narrative identity and psychological functioning. Given we were also interested in the direction of the relationship between narrative identity and psychological functioning, Study 3 examined the longitudinal associations between RDoC psychological processes and psychopathology. Lastly, in Study 4, we developed a novel coding scheme to examine how identification with psychopathology relates to psychological functioning in a sample from both the community and a clinical in-patient setting. Collectively, these studies (see Figure 1 for thesis structure) will offer crucial knowledge related to the developing field of narrative identity and the effectiveness of process research in the intervention and treatment of psychopathology.

Figure 1

Flowchart of Thesis Structure



Thesis Aims and Research Questions

1) Is there existing evidence indicating that rumination, OGM, emotion dysregulation and attachment are uniquely associated with narrative identity or potentially act as mediators or moderators in the association between narrative identity and well-being, depressive disorders, or BPD?
    a) What approaches have been employed to measure narrative identity within these studies?
2) How do transdiagnostic factors mediate or moderate the relationship between narrative identity and psychological functioning in a community sample of young adults (ages 18-25 years)?
3) What are the concurrent and longitudinal associations between the coherence of turning point narratives and RDoC systems (the negative valence system, the social processes system, and the arousal and regulatory system) in a community sample of young adults (ages 18-25 years)?
4) How does the degree of identification with psychopathology in turning-point narratives relate to psychopathology in a community and clinical sample of young adults (ages 18 – 39 years)?

Chapter 2: Study 1

Publication

This is a peer-reviewed version of the following article: Corbett, M., Reid, V. R. & Bird, A. L. (2023a). A systematic review of the relationships between narrative identity and transdiagnostic factors *[Manuscript in revision following reviewers' comments with PLOS One]*. The manuscript has been re-formatted to be consistent with the overarching thesis style and content.

Abstract

Understanding how narrative identity relates to psychological functioning is important for understanding how psychopathology develops and is maintained. This systematic review aims to summarise the evidence on transdiagnostic factors that may be uniquely associated with narrative identity or mediate or moderate the relationship between narrative identity and psychological functioning. The search protocol is registered with PROSPERO (CRD42021273159). A search of three databases identified peer-reviewed articles related to the concept of narrative identity and transdiagnostic factors associated with depression and Borderline Personality Disorder (BPD). Following the PRISMA approach (see Appendix A), articles were screened according to the predetermined inclusion and exclusion criteria. A total of eleven studies were included in this review. All relevant information was extracted and synthesised. The heterogeneity in concepts, methods, terminology, and measures utilised revealed mixed findings for the support of rumination, overgeneral memory, emotion dysregulation, and attachment as transdiagnostic factors that may be uniquely associated with narrative identity or mediate or moderate the relationship between narrative identity and psychological functioning. Future empirical research is needed and should include longitudinal study designs and clinical samples.

Introduction

Understanding the underlying processes that explain *how* narrative identity relates to psychological functioning is important for understanding the development and maintenance of psychopathology (Klimstra & Denissen, 2017). The past decade has seen a shift in thinking about presentations of psychopathology, moving away from specific disorders and diagnoses towards a transdiagnostic approach by understanding the maladaptive psychosocial factors that might underlie multiple different psychopathologies (Frank & Davidson, 2014; Fusar-Poli et al., 2019). Understanding these shared psychosocial factors is important, considering the high comorbidity levels in practice (Fusar-Poli et al., 2019). One way to better understand how narrative identity relates to psychological functioning could be to consider possible psychosocial transdiagnostic factors that exhibit unique associations with narrative identity or possess the potential to mediate or moderate this relationship. Transdiagnostic factors have not necessarily been examined within the narrative identity field, utilising a systematic, theory-driven approach (Dalgleish et al., 2020). Narrative identity disturbance, in and of itself, has been regarded as a transdiagnostic factor in psychopathology (Jensen et al., 2020). Therefore, a systematic review is needed to clearly understand the relationship between transdiagnostic factors, psychological functioning, and narrative identity.

Grounded in personality theory, narrative identity theory proposes that narrative identity is integral to the development and maintenance of psychopathology (McAdams, 1985, 1996, 2001, 2008b, 2017; McAdams & McLean, 2013). Narrative identity has been found to be related to clinical populations (Jensen et al., 2020; Jensen et al., 2021; Mitchell et al., 2020), therapeutic outcomes (McAdams et al., 2001), and well-being (Adler et al., 2015). A review by Adler et al. (2016) also provides evidence for the explanatory power of narrative identity to predict

psychopathology and well-being over and above existing personality measures. Moving beyond understanding that a relationship does exist, understanding *how* narrative identity is related to psychological functioning is important. Suppose we know the vulnerability or maintaining mechanisms that may be uniquely associated with narrative identity or mediate or moderate the relationship between narrative identity and psychological functioning. In that case, we can better understand the development and maintenance of psychopathology.

There is growing support for the utility of transdiagnostic factors in understanding the development and maintenance of psychopathology. Transdiagnostic factors may explain an individual's mental status better than specific diagnoses (there is high comorbidity in cross-sectional and longitudinal research to support this) (Nolen-Hoeksema & Watkins, 2011). Furthermore, transdiagnostic factors can provide valuable insight into prevention and treatment targets. For example, a diagnosis of depression or BPD might describe the symptoms a person is likely experiencing (such as low mood) but does not explain what caused or what is maintaining the low mood. In contrast, understanding that a transdiagnostic factor such as rumination underlies or contributes to an individual's low mood can increase the responsivity of prevention and treatment strategies (Abrutyn et al., 2019; Cuthbert & Insel, 2013; Dalgleish et al., 2020; Fusar-Poli et al., 2019; Hofmann & Hayes, 2018).

There are many ways to conceptualise transdiagnostic factors (Frank & Davidson, 2014). Here, we are interested in exploring transdiagnostic factors for psychopathologies that have consistently been found to be related to narrative identity. This review will also focus on two forms of psychopathology; depressive disorders and BPD – which have consistently been found to be related to narrative identity, and it is believed that any disturbance in narrative identity within these disorders is not primarily influenced by underlying neurobiological processes

(Barlow et al., 2018; Berna et al., 2016; Cowan et al., 2021; Lind et al., 2020; McDonnell et al., 2021).

From a preliminary literature search, we considered examining transdiagnostic factors based on their relevance to narrative identity and psychopathology. Individuals with depressive disorders or BPD have been found to exhibit greater levels of rumination (Adler et al., 2016; Adler et al., 2015; Dell'Osso et al., 2019), overgeneral memory (OGM) (Dalgleish et al., 2011; Harvey, 2004; Kuyken & Dalgleish, 1995; Maurex et al., 2010; Valentino, 2011; Williams et al., 2007), and emotion dysregulation (Carpenter & Trull, 2013; Joormann & Gotlib, 2010). They are also more likely to experience insecure or disorganised attachment styles (Agrawal et al., 2004; Jinyao et al., 2012; Lee & Hankin, 2009). These transdiagnostic factors have been implicated in the disruption of self-concept (Kuster et al., 2012), emotional processing (Khairudin et al., 2012; Ono et al., 2016), autobiographical memory recall (Williams et al., 2007), and interpersonal relationships (Ainsworth & Bowlby, 1991), which are essential components of narrative identity (Khairudin et al., 2012; McAdams, 1989, 2001; Milojevich & Quas, 2017). Therefore, rumination, emotion dysregulation, OGM, and attachment style are transdiagnostic factors hypothesised to have strong associations with narrative identity, which, in turn, could contribute to the development and/or maintenance of psychopathology.

When considering the relationship between narrative identity and psychopathology, coherence is a measure of narrative identity which has been associated with depressive disorders and BPD (Baerger & McAdams, 1999; Bendstrup et al., 2021). Individuals with depression and BPD are more likely to narrate their life stories with lower levels of cohesion (Baerger & McAdams, 1999; Bendstrup et al., 2021). Essentially, individuals with depression and BPD are less likely to mention specific times or locations of memories, recall the memories in temporal

order, and are less likely to mention an overall theme or integrate the memories with their sense of self (Baerger & McAdams, 1999; Bendstrup et al., 2021). As a result, these individuals are less likely to find unity within their sense of self, ultimately impacting their psychological functioning (Adler et al., 2007; Baerger & McAdams, 1999; Bendstrup et al., 2021).

So, how might rumination, emotion dysregulation, OGM, and attachment style function as underlying processes in the narrative identity and psychological functioning relationship? Firstly, rumination could mediate the relationship between coherence in life narratives and psychological functioning. In this instance, an individual who cannot construct a clear cause-and-effect narrative about experiences may focus on the negative aspects of these experiences, which is a core feature of rumination (Nolen-Hoeksema & Watkins, 2011). As a result, the individual may develop ongoing confusion and emotional distress, negatively impacting their overall well-being. Buxton (2016) has demonstrated the mediating role of rumination in the association between narrative coherence and psychological functioning within an adolescent population. Buxton proposed that individuals may inadvertently engage in rumination while attempting to make sense of their past experiences. As a result, the lack of cohesion and the presence of rumination impacts the individual's psychological functioning. In line with this perspective, existing research has shown clinically depressed individuals are more likely to narrate their life stories with a negative explanatory bias (Habermas et al., 2008).

Secondly, emotion dysregulation could impede the possibility of a coherent narrative in several ways. Firstly, individuals overwhelmed by intense emotions may experience impairment in cognitive processes (such as attention or mood-congruent recall (Hilt et al., 2014; Khairudin et al., 2012; Ono et al., 2016; Williams et al., 2007), resulting in disjointed or fragmented storytelling. Secondly, difficulties with emotion regulation may occur following trauma and/or

unresolved distress, leading to a narrative characterised by negative emotions (Khairudin et al., 2012). The emotions could bias interpretations of events and hinder the integration of experiences into a cohesive narrative. Lastly, inadequate emotion regulation could impact an individual's capacity for self-reflection (Oostvogels et al., 2018), resulting in a narrative that lacks self-awareness and introspection regarding an individual's experiences. We used the term emotion in this study's search string to encapsulate the different ways emotion dysregulation could be observed across depressive disorders and BPD, such as emotional impulsivity, difficulties with emotional self-regulation, or emotional disturbances (Bendstrup et al., 2021).

Thirdly, OGM could impede the possibility of a coherent narrative because it confers difficulty retrieving specific autobiographical memories (Gutenbrunner et al., 2019). Existing research has shown support for differences in memory recall by clinically depressed individuals (Dalgleish et al., 2011). OGM has been considered within the CaR-FA-X model, which "comprises three mechanisms that can either operate independently or interact with each other", resulting in the causation and perpetuation of OGM (Gutenbrunner et al., 2019, p. 759). The mechanisms are Capture and Rumination (CaR), Functional Avoidance (FA), and Executive Control (X) (Williams et al., 2007). The model essentially proposes that certain information can trigger ruminative thinking. As such, an individual might try to avoid thinking about the information because it causes distress, and this distress results in an inability to remain focused. As a result, OGM could impede the expression of a coherent narrative because narrating with cohesion requires the integration of personal experiences across time with specificity.

Finally, insecure or disorganised attachment styles could impede the possibility of a coherent narrative because rather than describing individual differences in behaviour, attachment has long been viewed as an organising system with which the infant and later the adult make

sense of experiences and navigate the world around them (Sroufe & Waters, 2017). This organisational system may lay a foundation for later constructing coherent narratives across several contexts. For example, secure attachment during infancy corresponds with autonomous attachment in adulthood, where caregiving experiences growing up can be described coherently, whether those particular experiences were positive or negative (Main et al., 1985). Reese (2008) found maternal coherence in the Adult Attachment Interview (AAI) correlated with more elaborative narratives when discussing the past with their children. In addition, individuals with insecure or disorganised attachment styles are more likely to develop disorganised personality processes (such as a lack of autonomy or ability to self-reflect) (Thompson, 2008). As a result, the disorganised personality processes could impede their ability to attend to, process, and remember events and, in turn, express a coherent narrative. Taken together, there is good reason to believe these transdiagnostic factors could be uniquely associated with narrative identity or mediate or moderate the relationship between narrative identity and psychological functioning.

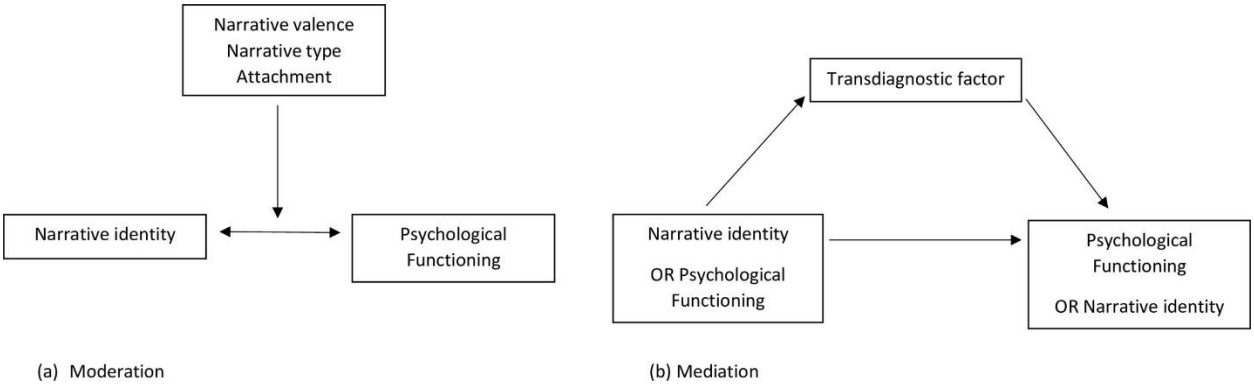
Specifically, this review will be guided by the following questions: (RQ1) “Is there evidence indicating that rumination, OGM, emotion dysregulation and attachment are uniquely associated with narrative identity or potentially act as mediators or moderators in the association between narrative identity and well-being, depressive disorders, or BPD?” (see Figure 2 for illustrated mediation and moderation hypotheses). Understanding the different approaches to measuring narrative identity is essential for informing future research. As such, we have also incorporated a second question in this review: (RQ2) What approaches have been employed to measure narrative identity within these studies? We anticipate that findings may reveal opportunities for developing new measurement tools or refining existing ones. Findings may also support researchers in identifying validated or tailored measures for different populations (e.g.,

children, clinical populations, and different cultural backgrounds). We anticipate these findings will advance research on narrative identity and its relationship with psychological functioning.

In accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines for Systematic Reviews, we developed a search protocol that is openly available through registration with the PROSPERO International Prospective Register of Systematic Reviews platform (www.crd.york.ac.uk/PROSPERO, registration number: CRD42021273159) (Appendix B). Due to the heterogeneity of the variables measured across the studies, the present review was conducted as a systematic literature review rather than a meta-analytic review (Higgins et al., 2003).

Figure 2

Potential (a) Moderating and (b) Mediating Relationships between Transdiagnostic Factors, Narrative Identity, and Psychological Functioning.



Method

Literature search and screening procedure

The articles were sourced from Web of Science, Scopus, and PsycINFO databases. The following search string was applied: (narrative OR narratives) AND (identity OR "meaning-making" OR "making meaning" OR "life story" OR "life stories" OR "turning point" OR coherence OR "autobiographical memory") AND (rumination OR cognitive OR attachment OR emotion OR "overgeneral memory") AND (depression OR borderline OR wellbeing OR well-being OR "psychological health" OR "mental health"). The databases were searched on 09/07/2021, and 579 articles were recognised (including 193 duplicates). The databases were revisited on 09/12/2022, with no new articles recognised as meeting the inclusion criteria. Following the PRISMA guidelines (Page et al., 2021), the first author screened the articles by title and abstract in Endnote©. Forty-eight articles met the inclusion criteria (see Table 1). The full-length articles were obtained for these studies and then downloaded into Endnote© for full-text screening by the first and third authors,* resulting in 11 studies.

* Indicates a change from the pre-registered study protocol.

Table 1

Literature Search Inclusion and Exclusion Criteria

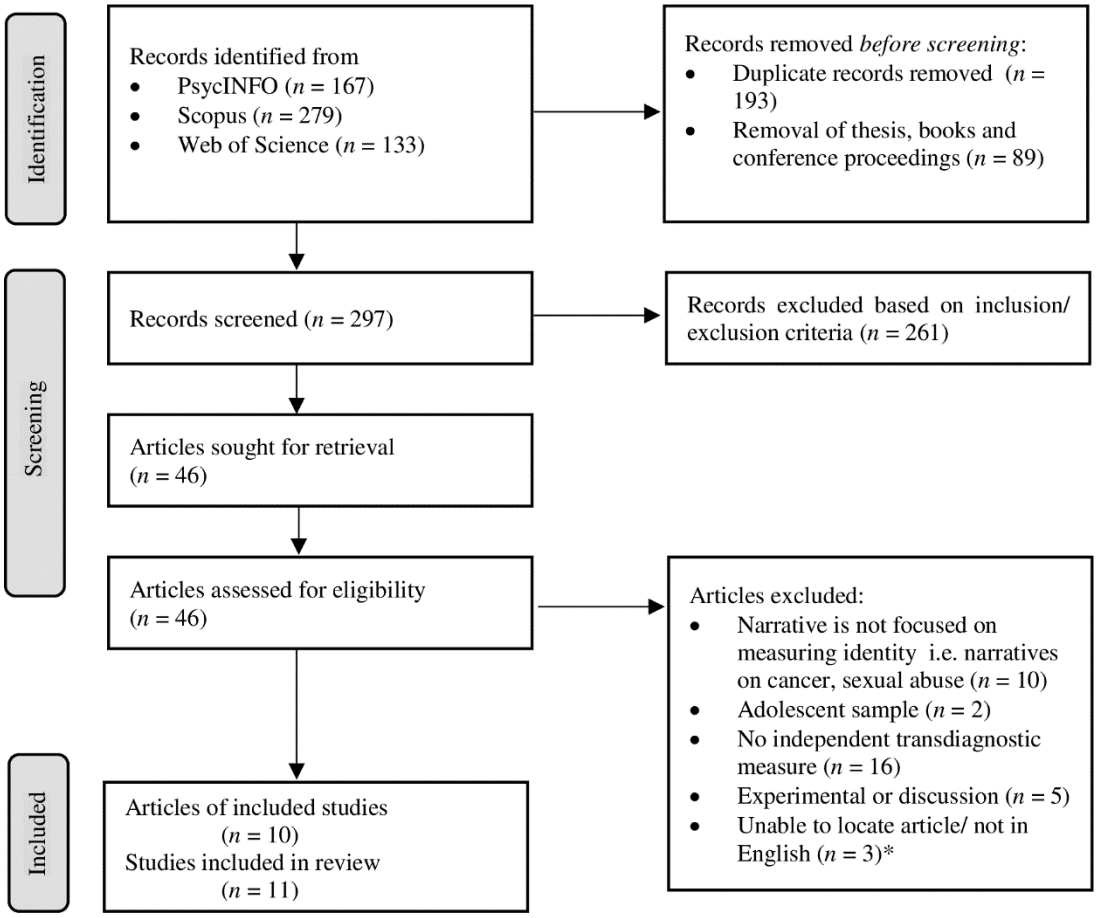
Inclusion Criteria
• The study contains an autobiographical memory that measures narrative identity or personal life story • Qualitative data only for narrative identity measures • Transdiagnostic factors are considered in the study as separate psychopathology factors using an independent measure (e.g., rumination is not assessed as a trait or feature within a measurement tool designed to evaluate narrative identity). • Accessible in either printed or downloadable form • Quantitative and qualitative studies from scientific peer-reviewed journals • Primary research or secondary research that synthesises the literature • Available in printed or downloadable form
Exclusion Criteria
• Commentaries (to minimise bias) • Studies on narrative identity interventions. • Dissertations and doctoral theses (because of availability) • Publications from journal* areas not related to psychology, psychiatry, or mental health "such as Anthropology and Literature, as these are related to different concepts of narrative" (Collins, 2021, p. 68) • Co-constructed narratives (e.g., reminiscing conversations between parent and child)

Note. * Indicates a change from the pre-registered study protocol

Reasons for article exclusion from the full-text screening stage are shown in Figure 3. For example, n = 5 studies included parent-child dyad narratives, n = 55 were commentaries, and n = 43 were intervention studies. The excluded articles were retained in a separate EndNote folder, and an Excel spreadsheet was used to record the primary reason for exclusion.

Figure 3

PRISMA Preferred Reporting Study Selection Flowchart for Systematic Reviews



Note. * Indicates a change from the pre-registered study protocol

Data extraction and quality assessment

Data were extracted from each selected study using the predefined data extraction table (Appendix C). The first author and an additional researcher independently assessed the quality of the 11 studies using the Joanna Briggs Institute Critical Appraisal Checklists for cohort and analytical cross-sectional studies (Aromataris et al., 2015). The checklist is designed to assess the aim and study design, inclusion criteria, search strategy, considerations of bias, considerations

for further research, and the implication of findings. There are seven relevant criteria for each of the studies to be scored. The scores are rated on a scale from 0 (no) to 3 (yes) for each criterion. Intra-class correlation coefficient absolute agreement was used to calculate interrater agreement on the risk of bias assessment. “Strong interrater agreement” (range 0.67 – 0.87) between the raters was reached (ICC = 0.78). A global percentage of quality was calculated by dividing the total sum score obtained across items by the total possible score. The two raters averaged the percentage of quality to achieve a final quality score. According to the Joanna Briggs Assessment scoring procedure, the quality of studies ranged from 63% to 100%. Across the studies, quality was lost primarily due to no identification of confounding factors and no strategies to deal with confounding factors. No study was discarded due to poor quality. Interrater disagreements were resolved through discussion.

Results and Discussion

Background

The final review includes 11 studies (see Table 2). Most studies recruited participants from the United States (US) (*n* = 7), followed by Europe (*n* = 3) and New Zealand (*n* = 1). While six of the studies did not report ethnic data, the five that did comprise a sample size of 1,224, 71% were Caucasian, 12% were Asian, 5% were African American, 3% were Latinx, 1.4% were Polynesian, 0.6% were American Indian, .5% were Middle Eastern, and 6% were Other. Sample sizes ranged from *n* = 54 to *n* = 366. Of the total participants (*n* = 2,036), the majority were undergraduate university or college students *n* = 1,452 or community residents *n* = 543. The remaining *n* = 41 participants were mental health outpatients. The sample population was primarily female (66%), aged between 16.8 and 42.6 years.

Most studies employed a quantitative cross-sectional design (*n* = 10), asking participants

to recall narratives and answer psychological functioning questionnaires. Narratives were measured through either written recall *n* = 9 (*n* = 5 computerised, *n* = 3 handwritten) or verbal recall *n* = 3. While most studies coded for one or two aspects of narrative identity, 25 different aspects of narrative identity were coded across the eleven studies. Cohesion was the most commonly coded identity narrative variable (*n* = 5). The primary statistical approach was to test main associations, followed by testing moderating effects among several narrative identity measures, psychopathology, well-being, and mental health factors. No two studies measured narrative identity using the same approach or with the same measure of psychopathology or well-being. Therefore, substantial heterogeneity exists in studies examining narrative identity, transdiagnostic factors and psychological functioning. Also, only *n* =1 of the studies employed a longitudinal design; therefore, conclusions about the direction of the relationships are limited.

Table 2

Characteristics of Eligible Studies.

Article	Aims	Participants	Measures	Statistical Approach	Findings	QA
Banks & Salmon, 2018	To investigate whether life story narrative variables explain unique variance in psychopathology beyond cognitive variables, whether this differs for depression versus anxiety, and whether narrative variables interact with cognitive variables to predict psychopathology.	Location: New Zealand Sample: *n* = 164 undergraduate psychology students who received course credit for participation Mean Age: 19.1 ± 2.3 Sex: 69% female	**Identity Narrative** High point, low point, and turning point. Coded for **self-event connections.** **Transdiagnostic Factors** Explanatory style* **Rumination** Cognitive reappraisal* **Psychological functioning** Depression and Anxiety	Concurrent relationships. Spearman's correlations Multiple regression analyses	Negative self-event connections were positively related to rumination (r =.24, $p < 0.01$, [95% CIs .09, .38]), depression (r = .24, $p < 0.01$, [95% CIs .07, .40]), and anxiety (r = .18, $p < 0.05$ [95% CIs .03, .31]), (positive self-event connections were not analysed). Rumination did not moderate the relationship between negative self-event connections and depression (B = 1.86 [95% CIs -.58, 4.21].	75%
Bendstrup et al., 2021	To determine if women with BPD constructed less coherent narratives than healthy controls and whether childhood trauma was associated with narrative incoherence	Location: Denmark Sample: n = 26 women with BPD recruited from an outpatient clinic, n = 28 healthy matched controls recruited from local advertisement Age 18-45 Sex: 100% women	**Narrative Identity** Six autobiographical memories (two related to identity, two shared socially, and two that can solve current or future problems). Coded for **narrative coherence** (orientation, structure, affect and integration)**.** **Transdiagnostic Factors** **Memory specificity**	Group differences. Two-way repeated measures ANCOVA Multiple linear regression models	There was no difference between the BPD sample and controls on the average coherence score (F (1, 47) =2.004; $p = .16$) regardless of the type of memory (F (2, 94) = .004; $p = .99$). There was no difference between the BPD sample and controls on the average specificity (F (1, 47) =.929; $p = .34$) regardless of the type of memory (F (2, 94) = 1.863; $p = .16$). Valence of the memory was not considered. However, the BPD sample scored lower on the orientation (t (47)= -2.266; β = -.287; $p = .028$) and structure subscale (t (47)= -2.153; β = -.219; $p = .036$), but there was no apparent difference for the affect (t (47)=1.441; β = .205; $p = .16$), and integration scale (t (47)= -1.005; β = -.158; $p = .16$). Episodic specificity was positively correlated to all domains of coherence (orientation (r = .459, p <.01), structure (r = .592 $p < .01$) and affect (r = .313 $p < .05$)) apart from integration (r = -.086, $p > .05$).	100%

			Psychological functioning Trauma Borderline Personality Disorder			
Booker et al., 2021. Study 1	To determine whether hope and expressed motivations in narratives serve as mechanisms between attachment and well-being.	Location: USA Sample: n = 366. N = 221 college- and n = 145 community-recruited adults Age: 19.13 ± 1.15 Sex: 57.7% female	**Narrative Identity** Life goal narratives. Coded for **agency** and **communion.** **Transdiagnostic Factors** **Attachment security** Trait hope **Psychological Functioning** Psychological well-being	Mediation and moderation hypotheses. T-tests. Bivariate correlations. Path analysis. Monte-Carlo based indirect effect tests	The associations between avoidant attachment style and themes of agency (r = -.08, p > .05) and communion (r = -.09, p > .05) were non-significant. Similarly, the associations between anxious attachment style and themes of agency (r = -.04, p > .05) and communion (r = .02, p > .05) were non-significant. Trait hope was negatively associated with avoidant attachment style (r = -.23, p < .05) and anxious attachment style (r = -.29, p < .05). Anxious attachment style was negatively associated with all measures of well-being (bivariate correlations on the six scales of well-being ranged from r = -.20, p < .05 to r = -.33, p < .05). Similarly, avoidant attachment style was negatively associated with all measures of well-being (bivariate correlations on the six scales of well-being ranged from r = -.22, p < .05 to r = -.37, p < .05). Associations between themes of communion and wellbeing were non-significant (bivariate correlations on the six scales of well-being ranged from r = .00, p > .05 to r = .12, p > .05). Similarly, associations between themes of agency and wellbeing were mostly non-significant (the only significant association was with the personal growth scale of wellbeing r = .22, p < .05). An indirect effect (mediation) was found between avoidant attachment and narrative agency via hope [95% CIs -.073, -.005]. An indirect effect (mediation) was found between avoidant attachment and well-being measures via hope (indirect confidence intervals for the six well-being subscales were: autonomy [95% CIs -.067, -.018], environmental mastery [95% CIs -.166, -.017], personal growth [95% CIs -.106, -.043], positive relations [95% CIs -.131, -.052], a sense of purpose [95% CIs -.154, -.067] and self-acceptance [95% CIs -.177, -.076]. Similarly, an indirect effect (mediation) between anxious attachment and narrative agency via hope was found. An indirect effect (mediation) was found between anxious attachment and wellbeing measures via hope (indirect confidence intervals for the six wellbeing subscales were: autonomy [95% CIs -.080, -.024], environmental mastery [95% CIs -.142, -.050], personal growth [95% CIs -.090, -.030], positive relations [95% CIs -.0.111, -.036], a sense of purpose [95% CIs -.132, -.047] and self-acceptance [95% CIs -.151, -.053].	100%
Booker et al., 2021. Study 2	To determine whether hope and expressed	Location: USA Sample: n = 288 college adults	**Narrative Identity** College transition narrative.	Mediation and moderation hypotheses.	The relationship between anxious attachment styles and themes of agency (r = -.06, p >.05) and themes of communion (r = -.00, p >.05) was non-significant. However, there was a small negative	100%

	motivations in narratives serve as mechanisms between attachment and well-being.	Age: 18.4 ± 1.6 Sex: 78.3% women	Coded for **agency** and **communion**. **Transdiagnostic Factors** **Attachment security** Trait hope* **Psychological Functioning** Stress* Psychological well-being	Bivariate correlations. Path analysis. Monte Carlo-based indirect effect tests	relationship between avoidant attachment and themes of agency (r = -.15, *p* >.05) but not with themes of communion (r = -.05, *p* >.05). Themes of communion were related to three of the four well-being measures (life satisfaction r = -.15, *p* < .05, recent stress r = -.18, *p* < .05, subjective happiness r = -.11, *p* > .05, psychological flourishing r = -.19, *p* < .05). Similarly, themes of agency related to two of the four measures of well-being (life satisfaction r = .14, *p* < .05, recent stress r = -.09, *p* > .05, subjective happiness r = .13, *p* > .05, psychological flourishing r = -.18, *p* < .05). Anxious attachment was associated with all of the well-being measures (life satisfaction r = -.34, *p* < .05, recent stress r = .24, *p* < .05, subjective happiness r = -.26, *p* < .05, psychological flourishing r = -.31, *p* < .05). However, avoidant attachment was related to only one of the four measures of well-being (life satisfaction r = -.07, *p* > .05, recent stress r = -.05, *p* > .05, subjective happiness r = -.08, *p* > .05, psychological flourishing r = -.18, *p* < .05). An indirect effect (mediation) was found between anxious attachment and narrative communion via hope [95% CIs -.099, -.013]. Similarly, an indirect effect (mediation) was found between avoidant attachment and narrative communion via hope [95% CIs -.068, -.002]. An indirect effect (mediation) was found between anxious attachment and well-being via hope (life satisfaction [95% CIs -.200, -.067], recent stress [95% CIs -.008, -.052], subjective happiness [95% CIs -.182, -.059], psychological flourishing [95% CIs -.189, -.068]. Similarly, an indirect effect (mediation) was found between avoidant attachment and well-being via hope (life satisfaction [95% CIs -.146, -.007], recent stress [95% CIs -.001, -.037], subjective happiness [95% CIs -.133, -.006], psychological flourishing [95% CIs -.140, -.008].	
Graci & Fivush, 2017	To understand if attachment styles and meaning-making explain how stressful and traumatic memories are narrated and how this relates to psychological health.	Location: USA Sample: *n* = 224 undergraduate psychology students who received course credit for participation. Age: 19.2 ± 2.1 Sex: 49.1% female	**Narrative Identity** Traumatic experience narrative. Coded for **exploration** and **support seeking**. **Transdiagnostic Factors** **Attachment security (anxious and avoidant)**	Moderation Correlation analyses. Hierarchical multiple regression and moderation analyses	Anxious attachment was negatively associated with themes of support seeking (r = -21, *p* <.01) and positively associated with stress-related growth (r = .16, *p* < .05) and event distress (r = .29, *p* < .01). However, no significant associations between anxious attachment and narrative exploration (r = .03, *p* > .05) were found. Avoidant attachment was negatively associated with stress-related growth (r = -.14, *p* < .05). However, no significant associations were found between avoidant attachment and event distress (r = -.02, *p* > .05) or narrative exploration (r = .04, *p* > .05) or narrative support seeking (r = -.03, *p* > .05). Narrative exploration was positively associated with stress-related growth (r = .26, *p* < .01). However, no significant associations between narrative exploration and event distress were found (r = .09, *p* > .05). Narrative support	100%

			Psychological Functioning Post-traumatic stress and growth		seeking was negatively associated with event distress (r = -.28, p < .01). However, no significant associations between narrative exploration and stress-related growth were found (r = .03, p > .05). Moderation analyses revealed the association between narrative exploration and stress-related growth was different at different levels of attachment avoidance (ΔR2 = .018, ΔF (1, 205) = 4.21, p < .05). Specifically, for individuals with lower attachment avoidance, when they engaged in high exploration of their narratives, they tended to experience higher levels of stress-related growth. However, for individuals with low narrative exploration, their level of attachment avoidance (low, average, and high) was not associated with their stress-related growth. Moderation analyses also revealed that the association between narrative support-seeking and event distress was different at different levels of attachment anxiety (ΔR2 = .017, ΔF (1, 200) = 3.93, p < .05). Specifically, for individuals with higher attachment anxiety, when they did not express support seeking in their narratives, they tended to demonstrate higher levels of event distress. However, for individuals with high narrative support seeking, their level of attachment anxiety (low, average, and high) was not associated with their event distress.	
Greenhoot et al., 2013	To investigate the relationship between traumatic memory qualities and psychological adjustment	Location: USA Sample: n = 177 undergraduate students. Age: 19.5 ± 1.89 Sex: 53.11% women Pre-screening to recruit participants with (n = 55) and without (n = 122) self-reported abuse exposure.	**Narrative Identity** Three stressful or traumatic personal memories. Coded using **14 frameworks**, including coherence and redemption. Memory quality* Coping responses* **Transdiagnostic Factors** **Rumination** **Emotional affect** **Psychological Functioning** Symptoms of depression, PTSD	Group differences. Exploratory factor analysis. Pearson product-moment correlations. General Linear Model Repeated Measures	Preliminary analyses tested for the effects of rumination, but because rumination did not affect the predictive values of the memory measures, rumination was excluded to simplify further analyses. Preliminary findings are not included in the study or supporting files. Memories with greater visceral detail were positively associated with emotional distress during (B = 0.37, p < 0.0001) and after the research (B = 0.22, p < .01). Similarly, memories with links to the present were positively associated with emotional distress during (B = 0.20, p < 0.05) and after the research (B = 0.24, p < .01).	100%
Habermas et al., 2021	To understand how reasoning can be ruminative	Location: USA Sample: n = 94 undergraduate	**Narrative Identity** Turning point event. Learning event.	Group differences. ANOVA. rANOVAs	State depression and anxiety were positively associated with autobiographical argument statements (β = 0.24, p <0.05) and negatively associated with innovative moments (β = -0.25, p	100%

	or adaptive by comparing with innovative moments and autobiographical reasoning.	students. Based on a pre-screen of n = 492, participants were recruited with (n = 55) and without (n = 122) self-reported abuse exposure. To select for extreme groups of ruminators n = 38, reflectors n = 37 and unconcerned n = 19 Age: 21.8 ± 3.7 Sex: 73.4% women	Three negative events. Coded for **autobiographical arguments** (as either self-event connection, change of view, or "other" memories) and **innovative moments.** The sample was divided into **ruminators,** reflectors, and unconcerned **Transdiagnostic Factors** **Emotion/ mood** **Psychological Functioning** Anxiety, depression, and life satisfaction	Correlation analyses. Repeated multivariate analysis of variance.	<0.05). When adding rumination as a predictor in further steps, both rumination scales added to the prediction (brooding: β = -0.64, p <0.01, perseverative thinking: β = -0.26, p <0.05). Innovative moments were associated with life satisfaction (r = 0.23, p < 0.05) but not autobiographical arguments (r = 0.05, p > 0.05). Ims positively predicted life satisfaction (β = -0.23, p < 0.05) but not when rumination was entered into the equation (β = -0.16, p >0.05). Group differences between ruminators and non-ruminators were not dependent on the memory valence F(3, 91) = 0.02, p > 0.05. The increase in mood after narrating memories was not predicted by any narrative measures or rumination/ reflection measures. Mood was assessed using the state scales of the STADI, specifically measuring anxiety and depression. To examine relationships with narrative variables and rumination/reflection measures, the change in mood between the beginning and end of the session was computed by subtracting the STADI state scores at the end from those at the beginning.	
Pedersen et al., 2018	To examine narrative identity and subjective well-being between outpatients with remitted bipolar disorder (BD) and a healthy control group.	Location: Denmark Sample: n = 15 female outpatients with remitted bipolar disorder recruited from the Ambulatory for Mania and Depression at Aarhus University Hospital Risskov Age: 33.87 ± 8.75 n = 15 female healthy controls recruited by word of mouth Age: 32.80 ± 7.09	**Narrative Identity** Past and future life story chapter narratives. Self-rated for positive and negative emotional tone, positive and negative self-event connections, and subjective probability. **Transdiagnostic Factors** **Positive and negative affect** (PANAS)	Group differences T-tests. Correlation analyses.	Remitted BD group reported significantly lower well-being than healthy controls (t (28) = 6.85, p < .001). There were no significant group differences between positive affect (t (28) = 1.85, p > .05) and negative affect (t (28) = 0.39, p > .05). Past narratives that made connections between the self and positive events were related to current well-being (r = .54, p < 0.01) and affect (r = .53, p < 0.01). However, future narratives that made connections between the self and positive events were related to current affect (r = .45, p < 0.05) but not well-being (r = .27, p > 0.05). Remitted BD group narrated past chapters with less positive self-event connections (t (28) = 4.37, p < .001) and more negative self-event connections (t (28) = 3.03, p < .001). There were no significant differences found between individuals with remitted BD and healthy controls in terms of sharing future narratives that involved either positive self-event connections (t (28) = 1.88, p > .05) or negative self-event connections (t (28) = 0.49, p > .05).	100%

			Psychological Functioning Remitted Bipolar Disorder, Depression, Well-being, Mania			
Sumner et al., 2013	To examine alternative measures of Autobiographical Memory Specificity that may better approximate naturalistic recollection processes.	Location: USA, Sample: Undergraduate students who received course credit for participation at Time 1 (n = 55) and were compensated with $10.00 at Time 2 (n = 30). Age: 19.2 ± 0.9. Sex: 58.2% women. Participants were randomly selected for two groups based on a pre-screen, representing n = 28 individuals in the top quartile and n = 27 individuals in the bottom quartile of depressive symptoms. Follow-up assessment completers (n =30) did not differ significantly from non-completers (n =25).	**Narrative Identity** A positive and negative self-defining narrative. Coded for the degree of **specificity.** **Transdiagnostic Factors** **Memory specificity** using AMT. **Psychological Functioning** Depression	Short-term longitudinal. Correlation analyses. Hierarchal linear regression.	Narrative memory specificity was not related to depressive symptoms (r = .05, *p* = .70). Memory specificity in narratives was positively related to memory specificity on the Traditional AMT task (r = .31, *p* < .05). Interestingly, greater memory specificity in narratives predicted lower depressive symptoms at follow-up (10 weeks later) (b = -8.91, ß = 0.40, t(27) = -2.48, *p* = .02.) but no significant prospective relationships for the Traditional Instructions AMT (b= =10.77, ß= -0.18, t(27)= -1.03, *p* =.32), or for the Minimal Instructions AMT (b = -5.08, ß= -0.11, t(27)= -0.60, *p* =.55).	100%
Vanderveren et al., 2019	To examine the association between memory coherence and memory specificity and internalising symptoms and rumination.	Location: Belgium Sample: n = 229 undergraduate psychology students who received course credit for participation. Age: 18.4 ± 1.24 Sex: 86% women	**Narrative Identity** High point and low point narratives, coded for **cohesion**. **Transdiagnostic Factors** **Memory specificity.** **Rumination.**	Concurrent relationships. Pearson correlation coefficients. Multiple linear regression analyses.	Coherence had a significant negative relationship with depression (r = -.14, *p* < .05) but not with anxiety (r = -.13, *p* > .05). Coherence was not related to rumination (r = -.03, *p* > .05) but was related to memory specificity (r = .24, *p* < .001). After controlling for rumination and memory specificity, memory coherence could not predict depression (ß= -.11, t (226) = -1.67, *p* =.10). However, after controlling for rumination and memory specificity, the coherence of negative narratives could predict depression (ß= -0.11, t (226) = -2.10, *p* =.04).	63%

			Psychological Functioning Internalising symptoms			
Vanderveren et al., 2020	To examine the relationship between memory coherence and both depression and PTSD by investigating mechanisms that might underpin the relation.	Location: USA Sample: n = 355 Community sample (Mturk), participants were financially compensated after completion to the amount of $4. Mean age: 38.71 ± 11.53 Sex: 58.6% female	**Narrative Identity** High point and low point narratives, coded for **cohesion.** **Transdiagnostic Factors** **Rumination** Cognitive avoidance* Executive functioning* Meaning making* **Psychological Functioning** Depression PTSD	Concurrent relationships. Indirect effect (mediation) was tested In line with Baron & Kennedy's (1986) approach using partial correlations. Pearson correlation coefficient. T-tests. Hayes PROCESS macro.	In line with Baron & Kennedy's (1986) approach, correlations between rumination, coherence, and depression were tested. No significant correlations were found between the coherence of narratives and depression. As such, an indirect effect was tested by conducting partial correlation coefficients between coherence and depression, controlling for rumination. These indirect effects were significant for both negative narrative coherence ($r = -.16$, $p < .001$). and total narrative coherence ($r = -.16$, $p < .001$)	75%

Note. Measures relevant to this review are **bolded.** *Indicates measures not relevant to this review. The underlying data used to reach the conclusions drawn in the manuscript and any additional data required to replicate the reported study findings can be found in supporting information (Appendix C).

(RQ1) "Is there evidence indicating that rumination, OGM, emotion dysregulation and attachments are uniquely associated with narrative identity or potentially act as mediators or moderators in the association between narrative identity and well-being, depressive disorders, or BPD?"

Rumination. The available evidence indicates mixed findings regarding whether rumination is uniquely associated with narrative identity or potentially acts as a mediator or moderator in the association between narrative identity and psychological functioning. Several key findings emerge from the n = 5 studies (Table 2) that considered rumination (primarily by recruiting university undergraduates and participants from a USA online crowdsourcing platform). Firstly, the association between rumination and narrative identity seems to depend on how narrative identity is measured, leading to variations in statistical significance. For instance, while Banks and Salmon (2018) found that negative self-event connections were positively associated with rumination, rumination did not correlate with narrative identity across the 14 coding frameworks assessed in Greenhoot et al. (2013) study, including factors such as coherence and redemption. Despite the association that Banks and Salmon (2018) found, rumination did not emerge as a moderator of the relationship, suggesting that rumination does not significantly influence the link between narrative identity and depression. Indicating that while the two concepts coexist in the psychological landscape, they may not necessarily interact in a direct, moderating manner.

Furthermore, findings suggest that while rumination can contribute to the predictive capacity of narrative identity in some contexts, consistent with prior research (Dell'Osso et al., 2019), narrative identity remains a robust predictor of depression. This perspective is evidenced by Habermas et al. (2021), who found when rumination was included as a predictor in subsequent analyses, it improved the predictive capacity of narrative identity on depression. Similarly, Vanderveren et al. (2019; 2020) found that after controlling for

rumination and memory specificity, narrative identity retained its ability to predict depression. Moreover, concerning well-being, having a positive narrative identity predicted well-being. However, when rumination was considered, this link became less significant, implying that rumination might weaken the predictive role of positive narrative elements like innovative moments on well-being.

These collective findings underscore the complex dynamics among narrative identity, rumination, and psychological functioning, highlighting the multifaceted nature of their relationships. Findings also suggest two additional factors that could influence the relationships. Firstly, the relationships could be influenced by the valence of the memory. For example, Vanderveren et al. (2019) did find a relationship between greater levels of rumination and more cohesive narratives, but only when the valence of the narrative was negative. The finding suggests that individuals with ruminative tendencies are more coherent when describing negative experiences. This finding may suggest that the mediating effects of rumination are most prominent when the individual is asked to recall a negative narrative because a core feature of rumination is continuously dwelling on the negative aspects (McLaughlin & Nolen-Hoeksema, 2011). When considering narrative identity variables beyond cohesion, the findings of Banks and Salmon (2018) also suggest that the valence of the memory may influence the mediating effects of rumination. Although they did not find evidence for rumination moderating the relationship between negative self-event connections and depression as indicated by the relatively wide confidence interval for the moderation effect (B = 1.86 [95% CIs -.58, 4.21], they did find that individuals with higher rumination were also more likely to narrate memories with more connections between self and negative past events although the confidence intervals indicate a moderate level of uncertainty around this relationship (r =.24, $p < 0.01$, [95% CIs .09, .38]) suggest that the true population effects could vary over a moderate range of values. Again, this may suggest that the mediating

effects of rumination are more or less prominent depending on the strength of the relationship between features of rumination and characteristics of the memory being recalled. Measuring the number of connections between self and both negative and positive past events in the analyses could provide further insight into how the memories' valence influences the relationship.

Secondly, the effects could be influenced by the approach taken to measure the valence of narrative identity. For example, Habermas et al. (2021) found that self-reported memory valence did not explain any difference in the findings between non-ruminators and ruminators. However, they did not ask for positive memories. Instead, the memory types included three negative memories, one self-relevant memory, and one memory where a lesson was learned. Importantly, the self-relevant and lesson-learned memory could be of mixed valence. By including a specific measure of positive valence, we may expect to see a difference between ruminators and non-ruminators.

In summary, the evidence provides mixed findings on rumination's unique association with narrative identity and its role as a moderator in the narrative identity-psychological functioning relationship. These findings underscore the complex interplay between narrative identity, rumination, and psychological functioning, with memory valence and measurement approaches functioning as potential influencing factors. Importantly, rumination was not considered a mediator across the studies, highlighting the need for future research in this area.

Overgeneral memory. The evidence from 3 studies (primarily involving university undergraduate students and a small outpatient sample with BPD) supports the idea that OGM is uniquely associated with narrative identity (Table 2). For ease of interpretation, we will interpret memory specificity in the context of OGM (given that OGM, but not memory specificity, is a transdiagnostic factor and OGM is the opposite of memory specificity). (Bendstrup et al., 2021; Sumner et al., 2013). Findings reveal a negative association between

narrative identity (measured by cohesion) and OGM. These findings suggest that as individuals express their life stories more cohesively, they tend to recall memories with more specific detail. In terms of OGM's utility in explaining how narrative identity relates to psychological functioning, Vanderveren et al. (2019) discovered that when OGM (along with rumination) is controlled for, narrative identity becomes predictive of depression, particularly in the context of negative memories of narrative identity—suggesting that OGM might play a role in mediating the relationship between narrative identity and depression. Interestingly, however, Bendstrup et al. (2021) and Sumner et al. (2013) found no evidence for concurrent relationships between coherence and OGM with depression or BPD, yet coherence, but not OGM, was able to predict levels of depression 10 weeks later (Sumner et al., 2013). These findings imply that although OGM may be relevant to understanding the development of depression, other factors or aspects are also important to consider.

A potentially important factor or aspect to consider is that the findings also suggest that the effects of OGM are most likely to be observed when the narrative taps into aspects of the self-concept that are perceived as more emotionally distressing. Consistent with this perspective, while Sumner et al. (2013) found that specificity in self-defining memory narratives predicted depression symptoms, OGM on the AMT task was not associated with depression. One possible explanation is that the individual could engage in emotional avoidance when choosing memories to recall on the AMT task. This perspective is consistent with the CaR-FA-X model of OGM (Gutenbrunner et al., 2019) and existing research that considers OGM related to psychological functioning (Barry et al., 2021; Hallford et al., 2021) and emotional avoidance as a strategy to reduce distress (Valentino, 2011).

Another important consideration is that across the 3 studies, the sole coding of narrative identity was by the degree of cohesion. This finding raises an important question: To what extent do narrative cohesion and OGM measure different constructs? Vanderveren et

al. (2017) proposed that memory coherence and memory specificity (the opposite of OGM) are situated at the same hierarchical level within the Self-Memory System, and many parallels can be drawn between them. For example, they share similar developmental pathways throughout childhood and adolescence. Both measures have similar associations with psychopathology (Vanderveren et al., 2017). However, the extent to which memory coherence and specificity are related remains largely unknown (Vanderveren et al., 2017). We expect coherence to be highly correlated with specificity if they measure the same construct. Yet current findings suggest only a weak to moderate relationship between memory coherence and specificity (Vanderveren et al., 2019). Vanderveren et al. (2019) propose that this provides evidence that they are, in fact, measuring different constructs.

Interestingly, the degree to which coherence was related to specificity appeared to depend on how the constructs were measured. Not surprisingly, specificity and coherence appeared more highly correlated when studies measured specificity in the same narrative task versus two different narrative tasks (Bendstrup et al., 2021). In another example, Sumner et al. (2013) used three approaches to measure specificity. They found that the degree of specificity in the memories related to the level of instruction given to the participants. As more instructions were given, individuals' narratives contained more specific details. As a result, we could expect how specificity is measured could influence the degree of association found with coherence. It could be that specificity is a component of memory coherence and, therefore, measures parts of the same phenomenon.

These findings imply that individuals with less cohesive narratives, marked by an absence of a clear and structured life story, might face challenges in organising and recalling specific, contextually rich memories from their past. Consequently, those with higher levels of OGM may experience difficulties effectively integrating negative memories, potentially leading to depressive symptoms. When considering the importance of OGM as a

transdiagnostic factor, this review highlights the need for further research that (a) attempts to compare construct validity across OGM measures, (b) considers the relationship between OGM and coherence within the same measure, and different measures, and (c) considers the moderating effects of factors such as memory type and valence of the memory. It's worth noting that none of the studies in our review explored whether OGM moderates or mediates the relationship between narrative identity and psychological functioning, leaving room for further investigation in future research.

Emotion dysregulation. As mentioned, the term 'emotion' was used in the search string to broadly capture difficulties with emotion and emotion regulation. Emotion was measured as state affect in $n = 3$ studies, which recruited primarily university undergraduate students and included a small sample of outpatients with remitted bipolar disorder (also considered a type of depressive disorder (Barlow et al., 2018)). Correlation analyses were conducted to determine the relationship between emotional state and aspects of the memories (Table 2) (Greenhoot et al., 2013; Habermas et al., 2021; Pedersen et al., 2018).

Distinguishing between state and trait emotion is important because the differences can help us understand how an individual and a circumstance interact to influence thoughts, feelings, and behaviour (Schmitt & Blum, 2020). On the one hand, an emotional state is defined as "momentary occurrences of emotion that vary across time as a function of the situation" (Schmitt & Blum, 2020, p. 5206). On the other hand, an emotional trait is defined as "repeatedly occurring emotional states" (Schmitt & Blum, 2020, p. 5206).

Findings from $n = 2$ of the studies support that the valence of the memory narrated appears to be related to an individual's emotional state. For example, Pedersen et al. (2018) found that participants who narrated their memories with a negative tone also reported experiencing negative state emotions over the past week (as measured by the Positive and Negative Affect Scale). Greenhoot et al. (2013) also found that traumatic memories with

greater visceral detail and links to the present were related to self-reported emotional distress during and after the research. As such, reflecting on negative emotional states might function as a mechanism to trigger a present negative emotional state. This perspective is consistent with research showing that rumination (continual dwelling on negative aspects) is associated with negative emotional states (Thomsen et al., 2003). Taken together, there is good reason to believe that the valence of the memory could influence the mediating effects of emotion on the relationship between narrative identity and psychological functioning.

Interestingly, in the study by Habermas et al. (2021), participants were asked to recall three negative memories; self-report measures showed participants' emotional state (as measured by the State-Trait Anxiety and Depression Inventory) improved after the memory recall. Importantly, participants were also asked to recall a turning point memory and a memory where a lesson was learnt. These types of memories are often referred to as redemptive sequences and have been related to higher levels of well-being (McAdams, 2001). So, while Habermas et al. (2021) attempted to determine if memory type moderated the relationship (found non-significant), future research that asks for positive memories could provide further insight into the extent to which an individual's emotional state could mediate the relationship between narrative identity and psychological functioning.

It is worth noting that, although not included in the present review, an additional study identified during the writing of the discussion section revealed that the extent of meaning-making within life stories could serve as a predictor of emotion regulation two years later (Cox & McAdams, 2014). This noteworthy finding adds further weight to the idea that emotion dysregulation may mediate the relationship between narrative identity and psychological functioning. It suggests that how individuals construct and find meaning in their life narratives can have implications for their ability to regulate emotions, which may influence their psychological functioning over time. Furthermore, the study also highlights

how the systematic review process relies on the terminology used in studies for robust findings. In this study, the term “narrative” was not used; therefore, the study was not located (Cox & McAdams, 2014). Importantly, emotion was not considered a mediator or moderator in the relationship between narrative identity and psychological functioning across the studies, highlighting the need for future research that considers this.

Attachment. The relationships between narrative identity, attachment, and psychological functioning were examined in $n = 3$ studies within $n = 2$ articles, including college and community-recruited adults as participants (Table 2) (Booker et al., 2021; Graci & Fivush, 2017). The results revealed mixed findings for unique associations between attachment and narrative identity measures. Booker et al. (2021) found in Study 1 that there was no significant relationship between attachment styles and narrative themes, and Booker et al.’s (2021) Study 2 found no significant relationship between anxious attachment style and narrative themes. However, they found a small negative relationship between avoidant attachment style and themes of agency but not communion. Graci et al. (2017) found no significant relationship between avoidant attachment style and narrative themes (support seeking). However, there was a small relationship between anxious attachment style and support seeking. Furthermore, Graci et al. (2017) found no significant relationship between attachment styles (avoidant or anxious) and narrative exploration. Interestingly, Graci et al. (2017) did find that attachment moderated the relationship between narrative meaning-making and psychological well-being.

It is important to note that both significant findings were small, and all studies used a different narrative prompt. Study 1 by Booker et al. (2021) asked participants to share a future goal, whereas Study 2 specifically asked about each participant’s transition to college. The study by Graci et al. (2017) asked participants to share a trauma narrative. Also important to note is the use of self-report measures of adult attachment, which are correlated

with but may not directly measure adult state of mind about developmental attachment experiences and may not reveal the true extent of the relationship (Risi et al., 2021).

Furthermore, Booker et al.'s (2021) studies focused on determining the mediating effects of hope on the relationship between narrative identity, attachment styles, and well-being. In these studies, hope was measured via self-report to determine the extent to which an individual is goal-oriented and devotes cognitive resources to understanding how to achieve goals (Booker et al., 2021). Interestingly, both studies 1 and 2 found evidence for the trait of hope mediating the relationship between attachment styles and narratives. For example, in Study 1, an indirect effect was found between anxious attachment style, narrative agency, and measures of well-being via hope. There was also an indirect effect between avoidant attachment style and agency and well-being via hope as an intervening variable. Study 2 found an indirect effect between anxious attachment, narrative communion, and well-being via hope as an intervening variable. There was also an indirect effect between avoidant attachment and communion and well-being via hope as an intervening variable. However, it is important to acknowledge that the confidence intervals in the studies by Booker et al. (2021) suggest that the true effects of the indirect pathways mediated by hope can vary in magnitude, emphasising the need for cautious interpretation and further investigation.

Nonetheless, these findings align with the proposition of McAdams et al. (1989) that early attachment security can lay the foundation for developing narrative identity. Essentially, an individual's early experiences of care could influence how individuals interpret and integrate their life experiences, which could influence psychological functioning. As such, these findings suggest that considering the moderating effects of attachment style in the relationship between narrative identity and psychological functioning is worthwhile.

To conclude, the majority of studies investigate the evidence supporting unique associations among rumination, OGM, emotion dysregulation and attachment in relation to

narrative identity. Some studies explore the possibility of these factors acting as mediators or moderators in the link between narrative identity and well-being, depressive disorders, or BPD. The majority of these studies have identified associations consistent with the expected direction. Additionally, several studies suggest that factors like memory valence, type of narrative, or individual characteristics such as hope may serve as potential moderators in this relationship.

Transdiagnostic factors are widely recognised as underlying the development and maintenance of psychopathology (Aldao et al., 2016; Luca, 2019; McLaughlin & Nolen-Hoeksema, 2011). However, only a limited number of studies have examined their role as mediators or moderators in the connection between narrative identity and psychological functioning. Considering the role of transdiagnostic factors allows us to explore the complex relationships between personal narratives, cognitive-emotional processes, and the development of psychopathology (Nolen-Hoeksema & Watkins, 2011). Essentially, the transdiagnostic approach can help us understand how disruptions in narrative identity formation, such as difficulties in coherence, may contribute to developing and maintaining psychopathological symptoms across different diagnostic categories. Moreover, these findings could have practical implications for developing interventions that target shared processes involved in psychopathology, leading to more comprehensive and effective treatment approaches (Frank & Davidson, 2014). Taken together, findings from these studies offer preliminary support for considering the extent to which rumination, emotion dysregulation, OGM, and attachment could mediate or moderate the relationship between narrative identity and psychological functioning.

(RQ2) What are the approaches to measuring narrative identity?

The articles in this review reveal diverse approaches to measuring narrative identity. Five studies measured narrative identity by asking participants to share specific

autobiographical memories. For example, Bendstrup et al. (2021) asked participants to recall an event that said something about their identity, Vanderveren et al. (2019) asked participants to recall key life events, and Greenhoot et al. (2013) asked participants to share stressful or traumatic events that they derive meaning and their view of self from. Lastly, although the study by Habermas et al. (2021) specifically attempted not to measure narrative identity (by asking participants for memories that are not older than five years), the prompts still asked participants to recall a turning point event and key events from their lives.

So, what then constitutes an autobiographical memory that measures narrative identity versus an autobiographical memory that does not? And why is this distinction important? An autobiographical memory that measures narrative identity would likely possess a degree of self-talk and meaning-making. In contrast, autobiographical memories with problem-solving or social functions are less likely to tap narrative identity. Examples from this review that may be less likely to measure narrative identity include asking participants to recall a memory where they learned a lesson (problem-solving function) (Habermas et al., 2021) and asking participants to recall memories they often share with people (social function) (Bendstrup et al., 2021). Importantly, while these autobiographical memories may be less likely to measure narrative identity, the participants' responses may still reflect narrative identity because the memory chosen to recall could entail self-talk and meaning-making. Distinguishing explicitly between the types of autobiographical memories is important for research validity.

A second important consideration in measuring narrative identity is the variation in how the memories are described to participants. For example, Banks et al. (2018) and Sumner et al. (2013) ask participants to share positive and negative memories. However, the emphasis differed. For example, in Banks et al. (2018), the emphasis was on emotions surrounding the memory, whereas in Sumner et al. (2013), the emphasis was on how the memory explains

who the person is. If both responses were coded for the degree of emotional valence, the variance could be explained by the descriptions' different emphasis on emotion rather than individual differences in valence. These differences in measurement across the studies make it difficult to conclude how valence might impact the relationships between narrative identity and psychological functioning.

While most of the reviewed studies were concerned with past narratives, the study by Pedersen et al. (2018) also considered future narratives. They found that patients with remitted BD exhibited a reduced positive emotional tone and fewer self-event connections in their narratives regarding past chapters. However, no significant differences were observed for future chapters. Nevertheless, patients showed fewer anticipated life events, which were expected to unfold more rapidly, and expressed a lower probability of these events occurring compared to healthy controls. Lower levels of subjective well-being were linked to these attributes of narrative chapters. These findings suggest that while past narratives may have a stronger impact on current well-being, recalling narratives with a negative emotional tone coupled with a limited perspective on the future may contribute to developing and maintaining psychopathology. As such, considering past and future narratives may be important for a more comprehensive understanding of the relationship between narrative identity and psychological functioning.

A final important consideration in the approaches to measuring narrative identity is that the narratives can be coded for different constructs, and different frameworks for coding variations of the same construct exist. For example, across the $n = 11$ studies in this review, the narratives were coded for 25 different constructs. The most commonly coded construct was cohesion $n = 5$ followed by self-event connections $n = 3$, memory specificity $n = 2$, agency $n = 2$, and communion $n = 2$. The many constructs coded for across the relatively small number of studies may highlight influences in the field from multiple disciplines. For

example, “agency” is a construct from the narrative identity field, which refers to a person’s “degree of control over their life” (McAdams, 1996). This same definition is referred to as “self-influence” within the trauma narrative field (Epstein et al., 2006). The many constructs highlight an opportunity for integration across disciplines interested in personal narratives.

Within the literature reviewed, different frameworks are utilised to code variations of the same construct. For example, within the $n = 4$ studies that coded for cohesion in narratives, $n = 3$ used the Narrative Coherence Coding Scheme (NaCCS) (Reese et al., 2011), and $n = 1$ used an adapted framework from Baerger et al. (1999). Another example is within the $n = 2$ studies, which coded for memory specificity in narratives; one study created a novel coding scheme (Bendstrup et al., 2021), whereas the other used an existing framework (Sumner et al., 2013). Further research considering the findings concerning the specific coding approach utilised may help consolidate findings across studies.

Implications and Recommendations for Future Research

A notable strength of this study is the process-orientated approach to understanding the relationship between narrative identity and psychological functioning. These studies offer valuable insights into the intricate relationship between narrative identity and transdiagnostic factors, including rumination, emotion dysregulation, OGM, and attachment, shedding light on their respective roles in the potential development and maintenance of psychopathology. Notably, rumination's complex association with narrative identity varies depending on measurement methods, while OGM demonstrates a unique connection with narrative identity, especially when narratives are emotionally distressing. Emotion dysregulation can mediate the link between narrative valence and an individual's emotional state, potentially influencing psychological functioning. Moreover, attachment styles exhibit mixed associations with narrative themes and may moderate the relationship between narrative identity and psychological functioning. These findings emphasise the need to consider the mediating and

moderating potential of the transdiagnostic factors when exploring the relationship between narrative identity and psychological functioning.

Another notable strength of this study is that the findings can inform future research and guide clinical interventions. By acknowledging the complex interplay between narrative identity and transdiagnostic factors, future research can gain a deeper understanding of the development and persistence of psychopathology using a process-oriented approach. In clinical practice, mental health professionals may incorporate interventions targeting issues related to narrative identity, rumination, emotion dysregulation, OGM, and attachment into treatment plans, potentially leading to more effective therapeutic approaches that address shared underlying processes contributing to psychopathological symptoms across diverse diagnostic categories.

A limitation recognised across most of the studies was the largely homogenous samples. The primary sample demographic was undergraduate university or college students. At the same time, these samples were also the largest because they are typically more straightforward to recruit. However, there are notable limitations when generalising the findings from such samples. Findings from university or college students may not yield the true relationship between narrative identity and psychological functioning because the sample may reflect limited variance in cognitive functioning (Vanderveren et al., 2019). For example, findings suggest that OGM is mainly a characteristic of clinically depressed individuals (Vanderveren et al., 2019). By measuring the association between OGM and depression in a community sample, the true strength of the relationship remains unknown because the individuals are unlikely to experience the same significant impairments in functioning as a clinical sample. Further research should consider clinical populations to represent psychological functioning across the spectrum.

Another limitation of the studies was that the majority (n = 10) employed a cross-

sectional design. While this can provide valuable insight into the associations between variables, it does not offer insight into the causal direction of the relationships. For example, Banks et al. (2018) proposed that negative self-event connections could be the building blocks for rumination. A longitudinal or experimental study could help to examine this possibility further. In addition, relying on self-report measures of both psychological functioning and transdiagnostic factors may mean associations are inflated by shared measurement bias. In particular, the measurement of adult attachment using self-report questions may not be as valid as observational or interview-based measures of attachment state of mind, such as the Adult Attachment Interview (AAI) George et al. [Unpublished]".

Importantly, loss in quality scores across studies was commonly due to no identification of confounding factors or strategies to deal with confounding factors. Identifying and addressing confounding factors helps to minimise bias and improve the quality of the evidence (Chen & Krauss, 2005). In the context of narrative identity research, many factors may influence or impact the formation and expression of an individual's life story narrative (McAdams, 2013). While factors such as cultural background, age and gender could be considered variables that may influence the narrative, they could also be considered central to an individual's concept of self rather than something to be controlled for. While the considerations regarding confounding variables and control may vary depending on the research design, methodology, and specific research questions, future studies should acknowledge the relevance of confounding variables in their analyses.

Future research attempting to understand the highly nuanced relationship between narrative identity and psychological functioning should consider the statistical analyses employed. Numerous variables may influence the expression of narrative identity. This review highlighted several possible variables, including the age of the memory, the valence of the memory, individual defence mechanisms to cope with distressing memories and

individual differences such as trait hope. As such, it is recommended that researchers employ advanced statistical techniques such as mediation, moderation, network analyses, and structural equation modelling to provide a more comprehensive understanding of the highly nuanced relationship between narrative identity and psychological functioning.

To conclude, rumination, OGM, and emotion dysregulation may mediate, and attachment style moderate, the relationship between narrative identity and psychological functioning. However, findings are mixed; therefore, further empirical research is needed. The heterogeneity in concepts, methods, terminology, and measures utilised in narrative identity research highlight the need for research firmly grounded within the narrative identity conceptual framework. This work will ensure robust findings and increase the likelihood of future meaningful meta-analytic research.

Chapter 3: Study 2

Publication

This is a peer-reviewed version of the following article: Corbett, M., Reid, V. R. & Bird, A. L. Author. et al. (2023b). Understanding the relationship between narrative identity, transdiagnostic factors, and psychological functioning in a young adult community sample [*Manuscript in revision following reviewers' comments with Narrative Inquiry*]. The manuscript has been re-formatted to be consistent with the overarching thesis style and content.

Abstract

Determining how narrative identity relates to psychological functioning is important for understanding how psychopathology develops and is maintained. The present study investigated whether transdiagnostic factors mediate and/or moderate associations of narrative identity with psychological functioning. We analysed data from n = 245 University students who completed an online survey measuring turning point narratives, transdiagnostic factors and psychological functioning. Results indicated that rumination and emotion dysregulation, but not overgeneral memory, mediated the relationship between lower causal coherence and psychological functioning. Contrary to predictions, neither attachment security nor memory tone moderated any relationships between narrative identity and psychological functioning. These pathways may be particularly important for understanding the development and maintenance of psychopathology.

Introduction

There is strong empirical support for a relationship between narrative identity and psychological functioning (Abrutyn et al., 2019; Adler et al., 2016; Adler & Olin, 2012; Adler et al., 2015; Jensen et al., 2021; McAdams et al., 2001; Mitchell et al., 2020). A recent review article by Adler et al. (2016) demonstrated the incremental validity of narrative identity in predicting well-being over and above existing measures of individual differences. The theoretical foundations of narrative identity (McAdams, 1985, 1996, 2017, 2019) are rich in perspectives that support the development and maintenance of psychological functioning. As Josephson et al. (1996) propose, although a function of life storytelling is to provide the self with an ego identity, it is also instrumental in mood repair and overall mental health maintenance. Despite empirical and theoretical support for an association between narrative identity and psychological functioning, we know little about the mechanisms underpinning this relationship. Understanding the mechanisms is important for advancing narrative identity theory and refining clinical practice (Kazdin, 2007; Windgassen et al., 2016). The present study aims to explore these associations by investigating possible transdiagnostic factors, which are shared mechanisms underlying various psychiatric conditions (such as rumination, overgeneral memory (OGM), emotion dysregulation and attachment security) that could partly explain the relationship between narrative identity and psychological functioning in young adults aged 18-25. This specific age group is particularly intriguing in the context of narrative identity theory due to the convergence of transitional changes in life alongside increased narrative stability (McAdams, 1996; McAdams et al., 2001).

Narrative identity is constructed from a series of autobiographical memories that integrate the concept of self through time (McAdams, 1996). One such autobiographical memory that is believed to be laden with particularly identity-rich content is a “turning-point” narrative. A turning point narrative involves the process of recalling an experience that has

"changed the individual's life or the kind of person" they are (Mitchell et al., 2020, p. 19). Unlike other autobiographical memories (Addis & Tippett, 2008; Bluck et al., 2005), individuals likely view turning-point narratives as significant events in explaining who they were or are (McAdams, 1996, 2008b, 2017). Given the significance of turning-point narratives to identity and the associations between identity and psychological functioning (Erikson, 1968; Sokol, 2009; Waterman, 1982), turning-point narratives are of specific interest to this research.

We focussed on two coding frameworks for examining the turning point narratives. Firstly, the causal coherence of turning point narratives, which is defined by Mitchell et al. (2020, p. 19) as a narrative that "has contributed to the current self, either in the form of a personality change or a change in perspective". Secondly, the redemption of turning point narratives, which is defined by McAdams et al. (2001, p. 474) as a narrative that "depicts a transformation from a bad, affectively negative life scene to a subsequent good, affectively positive life scene". While both of these coding frameworks have a robust theoretical basis for a relationship with psychological functioning, and studies have provided empirical support for associations (Adler & Olin, 2012; Adler et al., 2015; Bendstrup et al., 2021; Lind et al., 2019; McAdams et al., 2001; Vanderveren et al., 2021), few studies have considered the coding frameworks in the context of variables that could mediate or moderate the relationship. Mediation and moderation analyses are an approach to better understanding maintaining mechanisms and vulnerability (Windgassen et al., 2016), which could potentially underpin the narrative identity and psychological functioning relationship.

In further support of narrative identity being related to psychological functioning, there is strong empirical support for narrative identity being related to psychopathology. Evidence has shown that the presence of adverse elements in one's narrative identity serves as a transdiagnostic indicator of psychopathology (Jensen et al., 2020). Furthermore, facilitating

the development of a narrative identity that promotes agency and communion in both past and future experiences is deemed crucial for recovery from conditions like schizophrenia and depression (Jensen et al., 2021). Additionally, there is an indication that causal coherence, benefit finding, and agency in life stories may actively contribute to well-being (Adler et al., 2015; McAdams et al., 2001; Mitchell et al., 2020). These findings align with the broader theoretical framework proposed by McAdams (1985, 1996) that a lack of unity, purpose and meaning in life can contribute to the development or maintenance of psychopathology. To further our understanding of the intricate relationship between identity and psychopathology, Klimstra and Denissen (2017) introduce a novel theoretical framework, encouraging researchers to consider the complex interactions among underlying mechanisms.

One such way to consider the interactive effects of potential mechanisms is to utilise the Research Domain Criteria (RDoC) as a framework to examine the mediating and moderating effects of relevant psychosocial transdiagnostic factors. The RDoC framework concerns biological, cognitive, behavioural, and emotional transdiagnostic factors shared across multiple disorders (Insel et al., 2010; Nolen-Hoeksema & Watkins, 2011). Transdiagnostic factors are also present in both clinical and non-clinical populations and, in this way, are seen as underlying the development and maintenance of psychopathology (Dalgleish et al., 2020; Fusar-Poli et al., 2019; Hofmann & Hayes, 2018; Nolen-Hoeksema & Watkins, 2011). From an intervention perspective, considering transdiagnostic factors is more time and cost-effective and may target the core mechanisms that underlie concurrent and longitudinal comorbidity (Carlucci et al., 2021). In the present study, we therefore focussed on four psychosocial transdiagnostic factors derived from the aetiology of psychopathologies (depression, anxiety, and Borderline Personality Disorder) (Barlow et al., 2018) that have been previously related to narrative identity (Adler et al., 2016; Adler et al., 2015; Bendstrup et al., 2021; Dell'Osso et al., 2019). These transdiagnostic factors are rumination, emotion

dysregulation, OGM, and attachment security.

Rumination is defined as the repetitive cognitive process of focusing on negative aspects without reaching a resolution (Nolen-Hoeksema & Watkins, 2011). In understanding the potential mediating role of rumination, low causal coherence or redemption sequences in narrative identity may lead to an increased likelihood of rumination, leading to poorer psychological outcomes. Low causal coherence, for instance, may indicate difficulty making connections between personal life experiences and events (Habermas, 2011). Parental scaffolding during storytelling is believed to be one factor that can influence this narrative ability (McLean & Mansfield, 2012). This inability to organise memories and relate them to oneself could perpetuate negative thinking patterns and lead to rumination. In the context of redemptive sequences, higher levels of redemption may indicate the ability to find meaning and closure in negative life experiences, which could mitigate the likelihood of rumination. As such, when individuals connect their past events to personal growth, they may be less prone to repetitive negative thinking. Evidence for rumination as a moderating variable has produced mixed findings (Banks & Salmon, 2018; Habermas et al., 2021; Vanderveren et al., 2020), and in the one study we are aware of that considered the mediating effects of rumination, rumination was not analysed as a mediating variable due to the absence of a relationship between narrative identity and depression (Vanderveren et al., 2019).

Important to consider is that memories with a negative emotional tone have demonstrated a stronger association with cohesion than memories with a positive emotional tone (Vanderveren et al., 2019). In this instance, memories with a negative emotional tone may restrict the range of cohesion among individuals, lowering the value of the correlation with psychological functioning (Eledum, 2017). As such, the type of memory that is examined could explain the mixed findings (Author. et al., 2023a). This perspective highlights the limitations of interpreting these relationships without considering the emotional

tone when attempting to understand associations among narrative identity, transdiagnostic factors, and psychological functioning.

Emotion dysregulation is characterised by the inability to effectively manage emotions and associated physiological and behavioural states (Eisenberg & Sulik, 2012). In exploring the mediating potential of emotion dysregulation, we consider that struggles to recall memories coherently or to identify redemptive sequences within them may lead to emotion dysregulation. In line with this perspective, post-traumatic stress disorder (PTSD) literature supports the notion that when memories are fragmented or marked by unresolved distress, it becomes challenging to engage in cognitive reappraisals or emotional processing, which are essential mechanisms for regulating emotions (Seligowski et al., 2015). Furthermore, emotion dysregulation is a central driver of many psychological disorders, including PTSD, depression and BPD (American Psychiatric Association, 2022). Further supporting this perspective, in the context of PTSD, memory processing is considered to play an essential role in treatment (Seligowski et al., 2015). In line with this perspective, Cox and McAdams (2014) found that aspects of narrative identity could predict emotion regulation capacities two years later. However, to the best of our knowledge, the mediating effects of emotion dysregulation in the relationship between narrative identity and psychological functioning have not been examined.

OGM is defined as difficulty retrieving specific memories (Williams et al., 2007). When considering OGM's mediating potential, we explore the possibility that causal coherence or redemption sequences in narrative identity may be associated with the likelihood of developing OGM and subsequently influencing psychological outcomes. In this instance, reduced causal coherence, signifying difficulties in linking personal life experiences and events (Habermas, 2011), may foster avoidant thinking patterns and, in turn, contribute to the development of OGM. Conversely, within the context of redemptive sequences, higher

levels of redemption indicate the capacity to find meaning and closure in negative life experiences (McAdams et al., 2001), possibly mitigating the development of OGM. Consistent with this perspective, those individuals with the ability to accept internal thoughts and emotions related to past experiences have been shown to demonstrate lower susceptibility to OGM (Singer et al., 2013). Worthwhile acknowledging is that the relationship between OGM and psychological functioning has produced mixed results in prior research (Addis & Tippett, 2008; Sumner et al., 2010; Sumner et al., 2013; Van den Broeck et al., 2012), which underscores the significance of considering the relationship within the context of other moderating factors such as memory type and the emotional tone of memories (Author. et al., 2023a). Nonetheless, to the best of our knowledge, OGM has not been explored as a mediating variable. Collectively, there is a strong rationale for examining the mediating effects of rumination, emotion dysregulation, and OGM in the relationship between narrative identity and psychological functioning.

Given mediation models assume causality (Baron & Kenny, 1986) and the present study design is cross-sectional, it is crucial to justify the mediation models by considering the theoretical underpinnings. The theoretical framework of narrative identity posits that a well-constructed narrative, characterised by a strong sense of unity, purpose, and coherence in one's life story, plays an important role in reducing the susceptibility of individuals to the development and maintenance of psychopathology (McAdams, 1985, 1989, 1996, 2001, 2008b, 2017; McAdams & McLean, 2013). Essentially, a robust narrative identity is perceived as a protective factor, reducing the likelihood of symptom manifestations, which could include rumination, emotion dysregulation, and OGM. As Josephson et al. (1996) argue, life storytelling not only provides individuals with a cohesive ego identity but also serves as a mechanism for overall mental health maintenance. In this context, a well-structured narrative identity can be seen as a process that contributes to better psychological

well-being and protects individuals from the detrimental effects of psychopathological symptoms. In this study, one of our objectives is to test specific mediation pathways identified through the systematic review by Author. et al. (2023a). As Agler and De Boeck (2017) emphasised, when researchers are particularly interested in analysing specific pathways, employing separate mediation models to investigate specific effects is a valid approach.

Variables that could moderate the relationship between narrative identity and psychological functioning are also an objective of this study. Graci and Fivush (2017) found that attachment security moderated the relationship between trauma narratives (coded for exploration and support seeking) and post-traumatic stress and growth. Given that attachment security represents the differences in an individual's social and behavioural development as a function of their relationship with a primary caregiver, there is good reason to believe differences in memory recall (the ability to access, describe, and evaluate), would be observed between securely versus insecurely attached individuals (Ainsworth & Bowlby, 1991; Milojevich & Quas, 2017). Memory recall is the defining feature of attachment security in developmental attachment experiences (Bowlby, 1969), and there is growing empirical support for parental storytelling as forming the basis of children's autobiographical memory (Reese, 2018). Considering attachment security as a possible transdiagnostic factor that moderates the relationship between turning point narratives and psychological functioning (beyond post-traumatic stress and growth), therefore, remains an important area for further research.

There is also good reason to consider the emotional tone of the turning point narratives as a moderating variable. It may be that memories with a negative tone have more relevance for the individual life story than memories with a positive tone. This perspective arises from the notion that negative events may be especially important to an individual's life

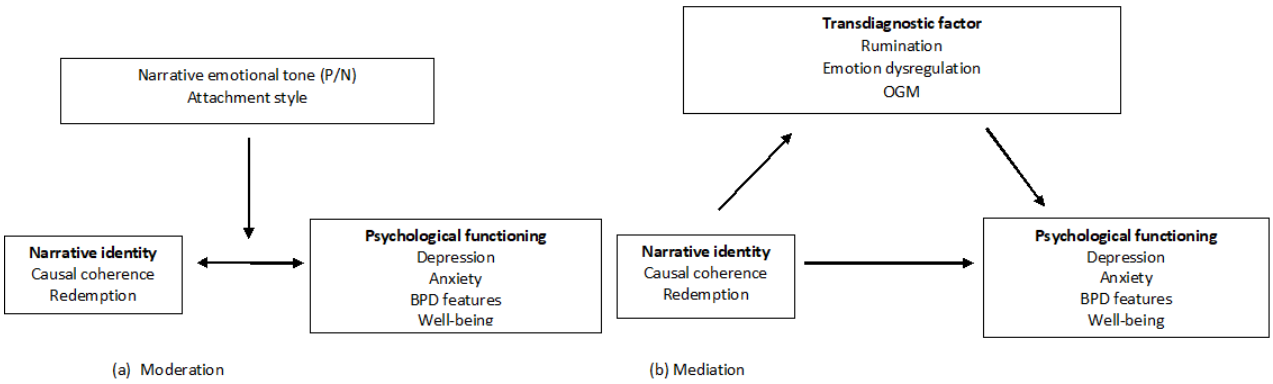
story since they could be more prominent (versus positive events) in reminiscing conversations with caregivers (Laible, 2011). The tone of the memories was an important consideration in studies by Banks and Salmon (2018) and Vanderveren et al. (2019). Banks and Salmon (2018) found that individuals who make some, as opposed to no, connections between who they are and negative events were more likely to experience depression and anxiety and more likely to report higher levels of rumination. Vanderveren et al. (2019) found that narratives with a negative tone were overall more cohesive than narratives with a positive tone. These findings suggest that further research should consider the emotional tone of the narratives in analyses.

The Current Study

The primary theoretical question underpinning the present research is to understand how narrative identity is related to psychological functioning by exploring mechanisms that could underpin the relationship. Turning point narratives have reliably shown evidence for a predictive relationship with depression, anxiety, BPD features and well-being (Adler et al., 2006; Adler et al., 2015; Pals, 2006; Sajjadi et al., 2021; Shiner et al., 2021; Sutin et al., 2010). We seek to extend these findings by examining potential moderating and mediating effects. From existing research, we have hypothesised possible relationships among narrative identity measures, transdiagnostic factors and psychological functioning measures (see Figure 4).

Figure 4

Potential (a) Moderating and (b) Mediating Relationships between Transdiagnostic Factors, Narrative Identity Measures and Psychological Functioning Measures.



Note. Narrative emotional tone (P/N) is defined as P = positive tone and N = negative tone.

We anticipate a negative relationship between narrative identity (causal coherence and redemption) and psychopathology symptoms (depression, anxiety and BPD features) and a positive relationship between narrative identity (causal coherence and redemption) and well-being based on existing research (Adler et al., 2016; Sajjadi et al., 2021; Verschueren et al., 2020). We expect that the transdiagnostic factors of rumination, emotion dysregulation and OGM would mediate an association between narrative identity and psychological functioning. Finally, we expect that attachment security and the emotional tone of the memory recalled would moderate the relationship between narrative identity and psychological functioning. The predictions for the mediating and moderating hypotheses are based on the RDoC criteria and the narrative identity and psychological functioning literature (Adler et al., 2016; Adler et al., 2015; Dell'Osso et al., 2019; Ein-Dor et al., 2016; Harvey,

2004; Shiner et al., 2021; Vanderveren et al., 2020; Vine & Aldao, 2014).

Method

Participants

The mean effect size among narrative identity studies was calculated as 0.13 by converting Fisher's Z values from Adler et al.'s (2016) systematic review paper to f^2 values. To determine the required sample size for replicating these effects, an a-priori power analysis was performed using G*Power version 3.1.9.4 (Faul et al., 2007) for multiple regression (with exp(β1) $f^2 = 0.13$; $\alpha = 0.05$). The analysis indicated a minimum sample size of no less than 63 is needed for 80% power. Similarly, for mediation (with $f^2 = 0.13$; $\alpha = 0.05$) and moderation (with $f^2 = 0.13$; $\alpha = 0.05$), the power analysis also suggested a minimal sample size of no less than 63 for each.

Participants were $n = 245$ young adults who were undergraduate psychology students. The average age was 19.6 ± 1.9 years, and 80% were female. Participants identified as New Zealand European ($n = 163$, 67%), Māori ($n = 36$, 15%), Pacific Islander ($n = 11$, 5%), Asian ($n = 23$, 9%), and Other ($n = 12$, 5%). Across participants, 30% self-reported having a mental illness diagnosis, which included comorbid anxiety and depression (32%), anxiety (15%), depression (8%) and comorbid PTSD and depression (5%). A further 21% of participants reported experiencing symptoms of mental illness, which included anxiety symptoms (51%), both anxiety and depression symptoms (24%), both ADHD and depression symptoms (4%), a combination of PTSD, anxiety and depression symptoms (4%) and depression symptoms (4%). It is important to acknowledge that the presence of mental illness symptoms and diagnoses in this sample may be comparatively higher than in young adults in the general population. This finding is consistent with other research showing that undergraduates in the humanities (versus other disciplines) were more likely to screen for depression and anxiety, report suicidal ideation and non-suicidal self-injury, and meet criteria for at least one mental

health problem (Lipson et al., 2016).

Measures

Turning Point Narrative Task. Narrative identity was measured using an abbreviated version of McAdams et al.'s (2006) life story interview. The abbreviated version asks participants to share a "turning point" from their life stories. Existing research has found the abbreviated version is a valid measure of narrative identity, given its significant associations with psychological functioning (Reese et al., 2017; Salmon et al., 2021; Tavernier & Willoughby, 2012). The supplementary material shows the turning point narrative instructions (see Appendix D). All narratives were subsequently coded utilising the coding frameworks described below.

Turning Point Narrative Coding. Consistent with Mitchell et al. (2020) approach**,** the first and third authors completed reliability coding for causal coherence and themes of redemption. Two coders individually assessed the reliability of 20% of the turning point narratives (any differences were resolved through agreement). The remaining turning point narratives were coded by the first author.

Causal Coherence. Following Reese et al. (2014) and Chen et al. (2012), causal coherence was coded using a 4-point scale adapted from Habermas and de Silveira (2008) (see Appendix E for values and examples). Causal coherence measures the extent to which the turning point event has contributed to changes in self-concept or personality. Inter-rater reliability for causal coherence was evaluated using an intra-class correlation (ICC) with a two-way random effect model, considering single measures and absolute agreement. The obtained ICC was 0.77, a level of agreement comparable to that found in other studies using the same scheme to measure coherence in turning points (ICC = 0.70; Mitchell et al., 2020).

Themes of redemption. Following McAdams et al. (2001), themes of redemption were coded using a binary scale (see Appendix F for values and examples). Redemption

measures the presence of transformation in the turning point event from a "bad, affectively negative life scene to a subsequent good, affectively positive life scene" (McAdams et al., 2001, p. 474). Cohen's kappa coefficient (κ) assessed the inter-rater reliability. The κ was 0.67 for themes of redemption. Although lower than other studies that have measured redemption in turning points (0.84; McAdams et al. 2001), reliability was still considered reasonable (McHugh, 2012).

Emotional tone proportion. Automated coding software Linguistic Inquiry and Word Count (LIWC-22), developed by Pennebaker and Francis (1999), was used to determine the emotional tone of the turning point narratives. This tool has been widely employed in previous studies for its efficacy in determining the emotional tone of narratives (Booker et al., 2018; Cox & McAdams, 2019; King & Miner, 2000). LIWC contains a sub-dictionary composed of groups of negative and positive emotion-related words[2]. LIWC analyses the words used to determine how positive the tone in the turning point narratives is. A score of 100 indicates the tone is maximally positive; a score of 50 indicates a narrative balanced with positive and negative emotional words.

Rumination. The Ruminative Response Scale (RRS) is a 22-item self-report scale constructed by Treynor et al. (2003). The scale assesses the degree to which individuals participate in repetitive, reflective thinking and behaviour after experiencing distress. Participants are asked to indicate the extent to which they engage in actions or thoughts related to distress and its origins using a 4-point scale. Scores are combined to provide a total RRS score, which has been shown to have good scale reliability and validity for assessing

[2] Positive emotional tone words included: *good, well, new, love*. Negative emotional tone words included: *bad, wrong, too much, hate*.

rumination in community and clinical samples (Parola et al., 2017; Roelofs et al., 2006) and excellent internal consistency (Cronbach's α = 0.92). Internal consistencies for the current sample were Cronbach's α = 0.92.

Emotion Dysregulation. The Difficulties in Emotion Regulation Scale (DERS; (Gratz & Roemer, 2004) is a 36-item self-report scale designed to measure the extent to which individuals experience difficulties in emotion regulation. The scale contains six subscales to measure dimensions of emotion dysregulation: non-acceptance, goals, impulse, awareness, strategies and clarity. Participants are asked about emotional arousal, awareness, understanding, acceptance of emotions, and capacity to behave in desired ways irrespective of emotional state using a 5-point scale. Scores are combined to provide a total DERS score and subscale scores. The DERS has demonstrated good test-retest reliability and adequate validity (Gratz & Roemer, 2004), and in a recent review paper, Cronbach's α 0.95 (Charak et al., 2019). Internal consistencies for the current sample were Cronbach's α = 0.95.

Overgeneral Memory. The written Minimal Instructions Autobiographical Memory Test (MiAMT) is a 10-item self-report questionnaire by Debeer et al. (2009). The questionnaire measures participants' degree of OGM. Participants are instructed: "This is a memory test; please think of a specific situation or event which each cue reminds you of. You will have one minute per cue to type your response". Ten cue words consisting of five positive emotion cue words and five negative emotion cue words alternatively presented on the computer screen (positive/ negative)[3].

[3] The cue words used were happy, lucky, proud, excited, and relaxed (Set 1), and sad, angry, lonely, guilty and scared (Set 2).

Overgeneral Memory Coding and Reliability. Following Vanderveren et al. (2019), memory specificity was coded for using a binary approach (i.e., specific or overgeneral) adapted from Debeer et al. (2009) to Gutenbrunner et al. (2019) (see Appendix G for values and examples). The memory is considered specific if an event is clearly defined and lasts less than one day. A memory is considered overgeneral if no definable single event is identified (e.g., each year on my birthday) and/or the event lasts longer than one day. A total OGM score was calculated as a proportion of the number of total memories (minus omissions) (# overgeneral/ 10 - # omissions). Following Takano et al. (2017) approach, categoric memories (e.g., "when I play hockey") semantic associations. We excluded future-oriented content, repetitions, incomplete responses, and omissions from our study as they were not relevant to our research hypothesis. Inter-rater reliability was evaluated using an intra-class correlation (ICC) with a two-way random effect model, considering single measures and absolute agreement. The ICC was 0.86 for OGM, consistent with the range of other studies (0.75: Gutenbrunner et al. 2019, 0.93: Warne et al. 2019) measuring specificity using the AMT.

Attachment security. The Relationship Questionnaire (RQ) is a 4-item self-report scale constructed by Bartholomew and Horowitz (1991). The scale is designed to measure adult relationship attachment styles - secure, fearful, preoccupied, and dismissing. Participants are asked to indicate to what degree each relationship style relates to their style, followed by indicating which of the four relationship styles best describes them. Scores are interpreted categorically to determine relationship style. Although the internal consistency cannot be calculated, test-retest reliability has been estimated to be 0.74–0.88 (Ligiéro & Gelso, 2002).

Depression, Anxiety and Stress. The Depression Anxiety Stress Scales (DASS-21; (Lovibond & Lovibond, 1995) is a 21-item abbreviated self-report scale designed to measure the degree to which individuals experience negative emotional states of depression, anxiety

and stress. Participants are asked to indicate the severity or frequency they have experienced each state over the past week using a 4-point scale. Scores for depression and anxiety were calculated by summing the scores for the relevant items, which have shown excellent validity and reliability Cronbach's α = 0.81 (depression) and α = 0.89 (anxiety) (Coker et al., 2018). Internal consistencies for the current sample were Cronbach's α = 0.89 (depression) and α = 0.80 (anxiety).

Borderline Personality Disorder features. The Personality Assessment Inventory-Borderline Scale (PAI-BOR) is a 24-item self-report scale constructed by Pilkonis (2018). The scale contains four subscales that measure the core features of BPD: affective instability, identity problems, negative relationships, and self-harm. Participants are asked to indicate how true each statement is using a 4-point scale. Scores are combined to provide total PAI-BOR and subscale scores, which have been shown to have good scale validity and reliability Cronbach's α = 0.80 (Murphy, 2020). Internal consistencies for the current sample were Cronbach's α = 0.88.

Well-being. The Satisfaction with Life Scale (SWLS) is a 5-item self-report scale constructed by Pavot and Diener (2013). The scale measures the extent to which individuals are satisfied with their lives. Participants are asked to indicate the extent to which they agree with the statements using a 7-point scale. Scores are combined to provide a total SWLS score, which has been shown to have good scale validity and reliability (Cronbach's α = 0.74) (López-Ortega et al., 2016). Internal consistencies for the current sample were Cronbach's α = 0.83.

Procedure

All participants were asked to complete a ≈60-minute online survey via Qualtrics (https://www.qualtrics.com/). After completing a consent form and basic demographic questionnaire, the measures were administered in the order of MiAMT, turning point

narrative task, DASS, PAI-BOR, RRS, DERS, RQ, and SWLS. Finally, participants were presented with a debrief form that explained the benefits of the research and provided contact details for service providers should the participants experience any research-related distress. The relevant Human Research Ethics Committee approved this research.

Data Analyses

All analyses were conducted on SPSS Version 27.0. Scales missing responses for 1-2 items were calculated by averaging scores across relevant subscales. The missing data points were PAI-BOR $n = 7$ and RRS $n = 4$. Descriptive statistics were calculated. Preliminary analyses (comparing means for continual DV and ordinal IVs) were conducted using one-way ANOVA and Chi-square. Preliminary associations were examined through Pearson's correlations for continuous variables and Spearman's rho correlations for ordinal variables.

The examination of mediation and moderation hypotheses was conducted by utilising the PROCESS macro for SPSS developed by Hayes (2018). For each mediation model (Model 4), bias-corrected bootstrapped confidence intervals for the indirect effects were computed, with 5,000 bootstrap samples and 95% confidence intervals (Hayes, 2018). Confidence intervals that do not cross zero were considered indicative of support for an indirect pathway. Because of the high correlations between psychological functioning and transdiagnostic factors, it is recommended to conduct mediation analyses in separate models (Hayes, 2018). The results indicated no significant relationship between redemption and transdiagnostic factors or psychological functioning (Table 5). Although indirect effects may exist even when variables are not correlated, testing mediation in such instances could increase the likelihood of Type 1 errors (Agler & de Boeck, 2017). Therefore, we have not considered redemption as a variable in the mediation analyses. Twelve simple mediation models were created to test the indirect effects of causal coherence on psychological functioning (symptoms of depression, anxiety, BPD features, well-being), mediated through

transdiagnostic factors (rumination, emotion dysregulation and OGM). Simple moderation analysis within PROCESS (Model 1) was conducted to examine interaction effects (Hayes, 2018). Covariates identified as significant in preliminary analyses were included in subsequent mediation and moderation models.

Results

Preliminary Analyses

Descriptive statistics are shown in Table 3, and potential covariates are shown in Table 4. Table 4 shows one-way ANOVA and chi-square values used to determine differences in narrative identity, transdiagnostic factors or psychological functioning based on gender, ethnicity and diagnostic status. While no differences in functioning were found to be related to gender or ethnicity, an individual's diagnostic status revealed mixed findings. An individual's diagnostic status (no diagnosis and symptoms or diagnosis) was related to themes of redemption in narratives ($\chi^2 = 19.002^a$, $p < .001$) levels of self-reported emotion dysregulation ($F = 7.106$, $p = .001$), rumination ($F = 10.279$, $p = 0.001$), depression ($F = 5.099$, $p = .007$), anxiety ($F = 9.671$, $p = .001$), well-being ($F = 5.211$, $p = .006$) and attachment security ($\chi^2 = 18.475^a$, $p = .005$), but not degree of causal coherence in turning point narratives ($F = 2.460$, $p = .088$), nor OGM ($F = .722$, $p = .487$) or BPD features ($F = 2.574$, $p = .078$). These relationships are in the expected directions, with individuals experiencing symptoms of a mental illness or having a diagnosis being more likely to report symptoms of rumination, emotion dysregulation, depression and anxiety, lower levels of well-being and a higher likelihood of experiencing an insecure attachment style. The high rates of insecure attachment within the sample (81.22%) are worth noting. The presence of insecure (self-reported) attachment styles among community samples is typically closer to 50% (Levine & Heller, 2016), which lends insight into the psychological functioning of the current study sample.

Table 3

Means and Standard Deviations for Study Variables

Variable	Mean (SD)
Participant age	19.55 (1.9)
Diagnostic status	.81 (.87)
Age during the turning point	16.43 (3.34)
Redemption	.24 (.42)
Causal coherence	1.63 (.91)
OGM	.47 (.18)
Depression	16.72 (10.46)
Anxiety	16.30 (9.34)
BPD	32.56 (9.10)
Rumination	53.67 (13.33)
Emotion dysregulation	100.60 (25.55)
Attachment	1.82 (1.12)
Well-being	21.69 (6.34)

Note. OGM refers to overgeneral memory; BPD refers to borderline personality disorder features.

Table 4

Preliminary Analyses: One-Way ANOVA and Chi-Square Values

Variable	Causal coherence	Redemption	Emotion dysregulation	Rumination	OGM	Attachment	Depression	Anxiety	BPD Features	Well-being
Gender	F = .385, p = .681	χ^2 = 3.562[a], p = .168	F =1.055, p = .350	F = 1.000, p = .369	F =.683, p = .506	χ^2 = 5.101[a], p = .531	F = .651, p = .522	F = .671, p = .512	F = 2.091, p = .126	F = 2.444, p = 0.089
Male	x = 1.52		x = 96.55	x = 52.20	x = .4708		x = 18.32	x = 14.86	x = 30.20	x = 19.82
Female	x = 1.66		x = 101.30	x = 53.73	x = .4764		x = 16.38	x = 16.55	x = 32.98	x = 22.11
Non-binary	x = 1.60		x = 111.20	x = 61.60	x = .3800		x = 18.00	x = 18.00	x = 36.20	x = 20.60
Ethnicity	F = .659, p = .621	χ^2 = 5.892[a], p = .207	F = .297, p = .880	F = .307, p = .873	F = .722 , p = .578	χ^2 = 5.923[a], p = .920	F = .795, p = .529	F = .779, p = .540	F = 1.849, p = .120	F = 1.044, p = .385
NZ European	x = 1.67		x = 99.82	x = 53.17	x = .4748		x = 16.09	x = 16.49	x = 31.67	x = 21.97
Māori	x = 1.53		x = 104.19	x = 55.22	x = .4562		x = 19.11	x = 16.67	x = 35.47	x = 21.31
Pacific	x = 1.73		x = 102.82	x = 53.36	x = .5455		x = 17.27	x = 18.55	x = 34.55	x = 22.82
Asian	x = 1.39		x = 101.30	x = 55.52	x = .4855		x = 16.00	x = 13.30	x = 34.39	x = 19.35
Other	x = 1.75		x = 97	x = 52.67	x = .4278		x = 19.00	x = 16.33	x = 30.50	x = 22.58
Diagnostic status	F = 2.460, p = .088	χ^2 = 19.002[a], ***p* < .001**	F = 7.106, p = **.001**	F = 10.279, p = **0.001**	F = .722, p = .487	χ^2 = 18.475[a], p = **.005**	F = 5.099, p = **.007**	F = 9.671, ***p* = .001**	F = 2.574, p = .078	F = 5.211, p = **.006**
No diagnosis or symptoms	x = 1.67		x = 94.54	x = 50.07	x = .4613		x = 14.6	x = 13.80	x = 31.25	x = 22.96
Symptoms	x = 1.38		x = 105.76	x = 55.36	x = .4971		x = 18.68	x = 19.72	x = 33.48	x = 20.98
Diagnosis	x = 1.73		x = 107.03	x = 58.43	x = .4790		x = 18.86	x = 18.08	x = 34.08	x = 20.11

Note. OGM refers to overgeneral memory; BPD refers to borderline personality disorder features.

Correlation Analyses

Table 5 shows bootstrapped Pearson's and Spearman's rho correlations examined the first hypothesis that narrative identity (causal coherence and redemption) would be negatively related to psychopathology symptoms (depression, anxiety and BPD features) and positively related to well-being. Partially consistent with this hypothesis, lower causal coherence was positively correlated with symptoms of depression (r_s = -.245, p < 0.01) and anxiety (r_s = -.194, p <0.01), and BPD features (r_s = -.175, p < 0.01), and negatively related to well-being (r_s. = 128, p = <0.01). Furthermore, lower causal coherence was positively associated with rumination and emotion dysregulation but not OGM. Redemption, however, was not related to symptoms of depression and anxiety, BPD features or well-being.

As expected, the transdiagnostic factors (rumination, emotion dysregulation) were positively correlated with the psychopathology symptoms (depression, anxiety and BPD features) and negatively correlated with well-being. OGM, however, was not correlated with any measures of psychological functioning (symptoms of depression, anxiety, BPD features or well-being) or narrative identity (causal coherence or redemption).

When considering the relationship between age and psychological functioning, transdiagnostic factors and narrative identity, the only significant correlation was the negative association between age and anxiety, with individuals reporting reduced anxiety symptoms as they age.

Table 5

Correlation Analyses: Spearman's Correlations among Narrative Identity (Causal Coherence and Redemption), Transdiagnostic Factors (Emotion Dysregulation, Rumination OGM), and Psychological Functioning (Symptoms of Depression, Anxiety, BPD Features, Well-being) and Age (95% Bias Corrected and Accelerated Intervals, Based on 2,000 Bootstrap Samples).

		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1.	Causal coherence	-									
2.	Redemption	r_{pb} = .260**	-								
3.	Rumination	-.148*	r_{pb} = .105	-			.				
4.	Emotion Dysregulation	-.189**	r_{pb} = .064	.687**	-			.			
5.	OGM	-.012	r_{pb} = -.024	-.002	.041	-					
6.	Depression	-.245**	r_{pb} = .045	.648**	.623**	.062	-	.			
7.	Anxiety	-.194**	r_{pb} = .006	.578**	.601**	.054	.573**	-			
8.	BPD	-.175**	r_{pb} = .035	.634**	.589**	.087	.491**	.498**	.598**	-	
9.	Well-being	.128*	r_{pb} = -.068	-.504**	-.539**	-.096	-.615**	-.359**	-.528**	-.312**	-
10.	Age	.045	r_{pb} = .026	-.034	-.124	.037	-.053	-.182**	-.075	-.054	-.033

Note. *p<0.05; **p<0.01 OGM refers to overgeneral memory; BPD refers to borderline personality disorder features.

Mediation analyses

As shown in Table 6, mediation analyses examined the second hypothesis that transdiagnostic factors (rumination, emotion dysregulation and OGM) will mediate an association between narrative identity as measured by causal coherence (recall that redemption was excluded from mediation analyses based on preliminary analyses) and psychological functioning (symptoms of depression, anxiety, BPD features and well-being)

Partially consistent with hypothesis 2, there was an indirect effect of causal coherence through rumination on all psychological functioning models (depression (*z* = -.9673 *95% CIs* -1.8008, -.1233), anxiety (*z* = -.7409, *95% CIs* -1.4266, -.0980), BPD (*z* = -.8580, *95% CIs* -1.6599, - .1070), and well-being (*z* = .4534, *95% CIs* .0573, .9137). There was also support for an indirect effect of causal coherence through emotion dysregulation on all psychological functioning models (depression (*z* = -1.1966, *95% CIs* -2.0436, -.4496), anxiety (*z* = -1.0128 *95% CIs* -1.7079, -.3756), BPD (*z* = 1.0263, *95% CIs* -1.7329, -.3763) and well-being (*z* = .6403, *95% CIs* .2381, 1.1166). However, the indirect effect of causal coherence through OGM on psychological functioning (symptoms of depression, anxiety, BPD features, and well-being) was not supported.

Table 6

Indirect Effect Coefficients for the Simple Mediation Models of Causal Coherence on Psychological Functioning, Mediated through Transdiagnostic Factors.

Transdiagnostic mediator and psychological functioning outcome variable	Direct effect from narrative identity (x) to psychological functioning (y) (*c'* path)	Narrative identity (x) to transdiagnostic factor (m) (*a* path)	Transdiagnostic factor (m) to psychological functioning (y) (*b* path)	Indirect effect of simple mediation model (through transdiagnostic factors) (95% CIs)
Rumination - Depression	-1.7442, *p* = .0019	-1.9942, *p* = .027	.4851, *p* <.0001	-.9673 (-1.8008, -.1233)
DERS - Depression	-1.5149, *p* = .0093	-5.009, *p* = .0040	-1.5149, *p* = .0093	-1.1966 (-2.0436, -.4496)
OGM - Depression	-2.7069, *p* = .0001	-.0017, *p* = .8927	2.6416, *p* = .4533	-.0046 (-.1392, .1222)
Rumination – Anxiety	-1.1235, *p* = .0363	-1.9942, *p* = .0270	.3715, *p* = .0000	-.7409 (-1.4266, -.0980)
DERS – Anxiety	.8516, *p* = .1074	-5.009, *p* = .0040	.2025, *p* = .0000	-1.0128 (-1.7079, -.3756)
OGM - Anxiety	-1.8613, *p* = .0032	-.0017, *p* = .8927	1.7528, *p* = 5759	-.0030 (-.1022, .0928)
Rumination - BPD	-.8276, *p* = .0990	-1.9942, *p* = .0270	.4302, *p* = .0000	-.8580 (-1.6599, - .1070)
DERS - BPD	-.6593, *p* = .2124	-5.009, *p* = .0040	.2052, *p* = .0000	-1.0263 (-1.7329, -.3763)
OGM - BPD	-1.6790, *p* = .0079	-.0017, *p* = .8927	3.7855, *p* = .0078	-.0066 (-.1448, .1416)
Rumination - Well-being	.3739, *p* = .3375	-1.9942, *p* = .0270	-.2274, *p* = .0000	.4534 (.0573, .9137)
DERS - Well-being	.1870, *p* = .6252	-5.009, *p* = .0040	-.1280, *p* = .0000	.6403 (.2381, 1.1166)
OGM – Well-being	.8224, *p* = .0596	-.0017, *p* = .8927	-2.8471, *p* = .1923	.0049 (-.1000, .1091)

Note. OGM refers to overgeneral memory; BPD refers to borderline personality disorder features; DERS refers to difficulties in emotion regulation

Moderation analyses

As shown in Table 7, moderation analyses examined the third hypothesis that attachment security and the emotional tone of the recalled memory would moderate the relationship between narrative identity and psychological functioning. There was no support for an interaction of narrative identity (causal coherence or redemption) and attachment security nor emotional tone on psychological functioning (symptoms of depression, anxiety, BPD features or well-being). Across all models, there was no direct association between attachment security and psychological functioning measures. There were, however, consistent direct associations between emotional tone and all psychological functioning measures except BPD features. In the models testing an interaction between causal coherence and the emotional tone, the (positive) emotional tone had a significant negative direct association with depression (z = -.1009, p = .03, 95% *CIs* -.1943, -.0075), a significant negative direct association with anxiety (z = -.0852, p = .04, 95% *CIs* -.1702, -.0002) and a significant positive direct association with well-being (z = .0647, p = .03, 95% *CIs* .0063, .1231).

Table 7

Direct Effect Coefficients for the Simple Moderation Models of Narrative Identity and Psychological Functioning, Moderated by Emotional Tone and Attachment Security

Moderating variable	*x * y*	$R^2\Delta$	*F*	*p*
Emotional tone	Causal coherence * depression	.0010	.2667	.6060
	Causal coherence * anxiety	.0016	.4414	.5071
	Causal coherence * BPD	.0029	.7486	.3878
	Causal coherence * well-being	.0038	.9834	.3223
Attachment security	Causal coherence * depression	.0020	.5792	.4474
	Causal coherence * anxiety	.0013	.3639	.5469
	Causal coherence * BPD	.0002	.0456	.8312
	Causal coherence * well-being	.0019	.5372	.4643
Emotional tone	Redemption * depression	.0008	.2202	.6394
	Redemption * anxiety	.0001	.0294	.8640
	Redemption * BPD	.0063	1.6098	.2058
	Redemption * well-being	.0074	1.9068	.1686
Attachment security	Redemption * depression	.0001	.0378	.8460
	Redemption * anxiety	.0003	.0803	.7772
	Redemption * BPD	.0004	.1031	.7485
	Redemption * well-being	.0001	.0336	.8548

Note. BPD refers to borderline personality disorder features.

Discussion

The current study examined relationships between narrative identity, transdiagnostic factors and psychological functioning in a cohort of young adult undergraduates in New Zealand. Partially consistent with our first hypothesis, we found that young adults who shared turning point narratives with reduced causal coherence reported higher levels of depressive and anxiety symptoms, higher levels of BPD features and lower levels of well-being. However, we did not find support for associations between redemption and transdiagnostic factors or psychological functioning. We expected that transdiagnostic factors, including rumination, emotion dysregulation, and OGM, would serve as mediators in the association between narrative identity and psychological functioning. Partially consistent with this second hypothesis, we found

support for rumination and emotion dysregulation but not OGM as mediators in the relationship between causal coherence and psychological functioning (depression, anxiety, BPD features and well-being). Finally, we expected that attachment security and the emotional tone of the recalled memory would moderate the relationship between narrative identity and psychological functioning. However, we did not receive support for this third hypothesis.

In returning to our first hypothesis, consistent with previous research (Adler et al., 2012; Lind et al., 2020; Mitchell et al., 2020; Reese et al., 2011; Vanderveren et al., 2019; Waters & Fivush, 2015), our findings provide support for the causal coherence of turning point narratives as a predictor of psychological functioning. As such, it appears that when an individual cannot elaborate on the extent to which a turning point event has contributed to changes in their self-concept or personality, they are more likely to experience symptoms or features of psychopathology.

Worth acknowledging is the potential presence of age-related differences in causal coherence. Although one study has indicated that older adolescents tend to experience more coherence in their life narratives (Chen et al., 2012), Erikson's (1968) theoretical perspective is that heightened adolescent independence can introduce identity challenges (Erikson, 1968). As such, it is important to recognise that coherence in young adulthood may not remain constant throughout an individual's life highlighting the dynamic nature of narrative coherence. Consequently, when interpreting findings linking coherence in young adulthood with psychological functioning, it is important to acknowledge that these relationships may evolve or change over time.

The lack of associations between redemption and transdiagnostic factors and psychological functioning was inconsistent with previous research conducted with mid-life

adults (Adler et al., 2015; McAdams et al., 2001). One possible explanation could be the age of the participants. Although the metacognitive abilities necessary to meaningfully assign emotion to autobiographical memories are meant to begin developing in adolescence (Habermas & Bluck, 2000), given the participants are young adults, it could be plausible that these metacognitive abilities are still establishing. As such, redemptive sequences may be less apparent in younger adults' turning point narratives. Instead, we might expect a statistically meaningful association between redemptive sequences and psychological functioning in older adults' turning point narratives, consistent with findings from studies recruiting mid-life participants (Adler et al., 2015; McAdams et al., 2001). Although not examined here, it is important to consider how the developmental stage might moderate these relationships between redemption and psychological functioning.

Another possible reason for the null finding is that across the studies that have found a relationship between redemption and psychological functioning, the strength of the relationship could be impacted by a number of factors. These include memory type (McAdams et al., 2001), age-related differences (McLean & Lilgendahl, 2008), or the specific redemptive characteristics of the narrative (Booker & Perlin, 2022). In summary, it is necessary to assess the stability of narrative identity over time and its associations with psychological functioning across different developmental stages.

In partial support of our second hypothesis that transdiagnostic factors (rumination, emotion dysregulation and OGM) would mediate an association between narrative identity (causal coherence) and psychological functioning, both rumination and emotion dysregulation, but not OGM were found to mediate the relationship between causal coherence and depression, anxiety, BPD features and well-being. Accordingly, self-reporting higher ruminative symptoms

and higher emotion dysregulation symptoms both helped to explain why individuals who elaborated less on the extent to which their turning point event has contributed to changes in their self-concept or personality tended to experience more depressive and anxiety symptoms as well as higher scores in BPD features and lower levels of well-being. This finding is consistent with previous research proposing that rumination (Dell'Osso et al., 2019; McLaughlin & Nolen-Hoeksema, 2011) and emotion dysregulation (Aldao et al., 2016; Carpenter & Trull, 2013) are reliable transdiagnostic factors for many forms of psychopathology.

One such way that rumination might mediate the relationship between narrative identity and psychological functioning is based on its role as a maladaptive cognitive process that intensifies and perpetuates negative affective states and psychological distress (Nolen-Hoeksema & Watkins, 2011). Essentially, when individuals encounter challenges in integrating their life narratives coherently, it may lead to confusion, frustration, and emotional upheaval (Erikson, 1968). While this challenge is considered normative in the trajectory of adolescent identity development (McAdams, 1996), other examples might include an ambiguity in self-concept associated with an adoption background (Grotevant et al., 2017) or experiencing incongruent elements between values and cultural expectations for those navigating migration (Bhugra & Becker, 2005). In response to an inability to coherently integrate their life narratives, individuals may experience these negative affective states and psychological distress and then subsequently engage in rumination—a repetitive and unproductive focus on one's distress and its potential causes, consequences, and implications (Nolen-Hoeksema & Watkins, 2011). This sustained cognitive preoccupation with negative thoughts not only prolongs emotional distress but can also interfere with problem-solving and adaptive coping strategies (Sales et al., 2013). The chronic nature of rumination can, in turn, contribute to the development and maintenance of

psychopathology, acting as a linking mechanism between the initial lack of causal coherence and the subsequent manifestation of depression, anxiety and BPD. Take, for example, the excerpt below from an individual who scored low in causal coherence, high in rumination and high in depressive symptoms:

> *"A turning point in my life was losing a good friend of mine. It happened through…. There was miscommunication…. and she got upset at what I said… I was upset and angry at myself. I also felt some sort of desperation. This impact had upon me could include having more of a secluded personality and being a lot more cautious of the things I say. What this experience says about me is that people close to me are a big part of my life and that losing one feels like I've physically lost something".*

In this instance, the narrative highlights the significance of interpersonal relationships for the individual. Losing a close friend evokes significant emotional distress. To manage, they adopt coping strategies like increased seclusion and heightened caution in communication. This response might stem from the individual's heavy reliance on external relationships, whereby their identity is entangled with the dynamics of these connections rather than being anchored in an internal coherent sense of self. As such, the individual may engage in rumination to process these challenges. Importantly, we are not proposing that this event alone contributed to the individual's depressive symptoms but rather highlighting a potential pattern of cognitive vulnerabilities. Together, the potential reliance on external relationships may lead to an unstable narrative identity. This instability, when confronted with identity challenges and emotional distress, creates a susceptibility to rumination, which, over time, could lead to the development

of depression.

When considering how emotion dysregulation might mediate the relationship between a lack of causal coherence and psychological functioning, an inability to manage emotions in response to a lack of causal coherence in one's life narrative might contribute to the development of psychopathology. This perspective is consistent with Cox and McAdams (2014), who found that meaning-making in identity narratives could predict emotion regulation 2 years later. As mentioned previously, when individuals struggle to integrate and make sense of their life experiences coherently, it can create a sense of confusion, unpredictability, and ambiguity in understanding their emotions and reactions (Erikson, 1968). Essentially, suppose an individual faces challenges, traumas, or significant losses without a coherent narrative as a framework to process the associated emotions. As a result, they may struggle to regulate their emotional responses, which can, in turn, contribute to the development of psychopathology. Take, for example, the excerpt below from an individual who scored low in causal coherence, high in emotion dysregulation and high in anxiety symptoms:

> *"A turning point in my life was when I had one of the worst panic attacks, I've had…. Afterwards, I had a sort of realisation that my anxiety and fear were holding me back…this prompted me to try and break down what exactly…was causing me the stress to try and find better ways to go about accepting or overcoming this… I'm not sure what this says about me…often, I struggle to put my thoughts into words or try to bottle them up…I wouldn't say I'm a different person now…but with a little more insight into myself".*

In this instance, the individual recounts a severe panic attack that prompted self-reflection. The narrative underscores the importance of the individual's struggles in processing stress and emotions. The individual engages in emotion suppression as a maladaptive means of regulating emotions. This suppression might lead to further confusion around emotions (Aldao et al., 2016). A coherent identity could provide a structured framework for processing these thoughts and emotions that the individual experiences, lowering the risk of dysregulation. Together, these insights highlight the potentially important role of a coherent narrative identity in mitigating emotion dysregulation.

We did not find evidence for OGM mediating the relationship between causal coherence in turning point narratives and psychological functioning. Thus, being able to recall autobiographical memories with greater specificity did not explain why individuals who elaborated more on the extent to which their turning point event has contributed to changes in their self-concept or personality tended to experience lower depressive and anxiety symptoms as well as fewer BPD features and higher levels of well-being. To date, studies examining the relationship between OGM and psychological functioning highlight the need to consider variables that could moderate the relationship (see meta-analyses by Barry et al., 2021 and Sumner et al., 2010). One possible explanation for the null finding is that ruminative tendencies could inversely impact OGM. In other words, continuous dwelling on negative thoughts equips an individual to recall a memory with greater specificity (or less OGM) (Debeer et al., 2009).

Although our study considered the mediating effects of rumination, emotion dysregulation and OGM on the relationship between narrative identity and psychological functioning, it is important to acknowledge the potential for narrative identity to mediate the relationship between transdiagnostic variables and psychological functioning. For example, a

tendency to ruminate could lead to an incoherent sense of self. This perspective is supported by research showing that continuous rumination is associated with cognitive impairments, including difficulties in concentration and problem-solving (Buxton, 2016). These cognitive challenges may interfere with the cognitive processes involved in constructing a coherent narrative, such as connecting the self with meaningful events. It is also possible that a challenge in regulating emotions might result in the inability to recall memories coherently. This perspective is supported by research showing that heightened emotional states or persistent emotional distress can interfere with retrieving memories (Khairudin et al., 2012; Ono et al., 2016). While this study is grounded in narrative identity theory, which proposes narrative identity is a protective factor in the development and maintenance of psychopathology, further longitudinal research employing structural equation modelling should take into consideration the plausibility of a reciprocal relationship between narrative identity and transdiagnostic factors that could lead to the development of psychopathology.

We found no support for our third hypothesis, where attachment security and the emotional tone of the memory recalled would moderate the relationship between narrative identity and psychological functioning. The finding that attachment security did not moderate the relationship between causal coherence and psychological functioning is complex to interpret theoretically. This complexity comes from the perception that our relational styles from childhood establish the building blocks of storytelling (Bird & Reese, 2006; McAdams, 1989; McAdams et al., 1988; McLean & Mansfield, 2012). Securely attached individuals are more likely to produce organised and richly elaborated narratives because they experience consistent interactions with caregivers who encourage the storytelling process (Oppenheim & Waters, 1995). One possible explanation for the null findings for attachment moderation could be the

"type" of autobiographical memory the individual chose as their turning point. Given that 'defensive exclusion' is a feature of insecure attachment (Oppenheim & Waters, 1995), the participant may exclude a memory that is too painful to recall, and as such, the communication difficulties (lack of causal coherence) are not observed. A recent review by Author. et al. (2023a) highlights the differences in findings among the narrative psychological functioning literature subject to the differences in autobiographical memory types. Future research is needed that considers if there is a pattern in the themes of turning point narratives recalled between securely and insecurely attached individuals, such as those that might trigger defensive exclusion. For example, are insecurely attached individuals less likely to recall narratives with reference to relationships and social connections, or, if they do, are the narratives associated with ruptures in relationships?

Another potential reason we did not find moderating effects of attachment could be due to the limitations of The Relative Questionnaire (RQ) used in our study for assessing attachment security. One limitation of the RQ is its reliance on self-report, which may introduce response biases (Justo-Núñez et al., 2022). Future research could benefit from incorporating more comprehensive measures of attachment, such as the Adult Attachment Interview (AAI) (George et al., 1985), to provide a more robust understanding of attachment security (Crowell & Treboux, 1995).

The finding that the emotional tone of the memory does not moderate the relationship between causal coherence and psychological functioning is also surprising, considering the existing empirical support that highlights the variance in relationships when the emotional tone is considered (Author. et al., 2023a). While no moderation effects were found, it is worth noting that there were direct associations between emotional tone and psychological functioning in the

directions expected, with individuals recalling turning points with a negative emotional tone being more likely to experience symptoms of depression and anxiety and individuals recalling turning points with a positive emotional tone being more likely to experience higher levels of well-being. These findings highlight that tone is an important aspect of narrative identity in understanding psychological functioning. Taken together, this provides further support for a highly nuanced relationship between narrative identity and psychological functioning and the need for further analyses of underlying mechanisms using an approach that considers the complex interactions.

Strengths and Limitations

Notable strengths of the study include the large sample and the moderation and mediation analyses, which go beyond direct associations in an attempt to better understand complex relationships. Another potential and unexpected strength of the study is the psychological functioning of the sample. Given a high proportion of our community sample was experiencing symptoms of a mental illness (21%) and/or had a mental illness diagnosis (30%), these findings may have relevance for at least outpatient clinical samples. However, it is important to acknowledge that given the sample was undergraduate psychology students, it is also a very specific and homogeneous group, which may limit the generalisability of these results.

Even though the findings offer a robust foundation to better understand the relationship between narrative identity and psychological functioning, longitudinal and experimental research could play a future role in understanding directionality. This knowledge is necessary for a better understanding of the mechanisms that contribute to the development and maintenance of psychopathology over time.

Lastly, although simple mediation and moderation analyses provide valuable insight into

the highly nuanced relationships, a statistical approach will be required to better encapsulate the intricacies among variables that impact the narrative identity and psychological functioning relationship. Specifically, further research should consider how narrative identity variables relate to psychological functioning while considering the many possible inter and intra-personal psychological processes and transdiagnostic factors that could impact the relationship (such as developmental stage, rumination, emotion dysregulation, personality factors and attachment style).

Also, it is important to consider how the interaction is subject to change depending on the type of "strategy" an individual might employ as elicited by the type of stimuli. For example, narratives from a securely attached individual may not differ in causal coherence from those of an insecurely attached individual because the individual intentionally chose to recall a narrative that does not elicit a strong emotional reaction, resulting in no observed communication difficulties.

Implications

Even though the current study's findings should be interpreted with the necessary caution, it is clear that valuable insights can be obtained from examining how transdiagnostic factors mediate or moderate the relationship between narrative identity and psychological functioning. This exploration not only has the potential to enhance our understanding of the interplay among aspects of narrative identity and their implications for the development and maintenance of psychopathology (Klimstra & Denissen, 2017), but it also holds significant clinical relevance. For example, the mixed evidence for the efficacy of Memory Specificity Training (MEST) in decreasing depressive symptoms (Barry et al., 2021) suggests considerations are necessary for refining its approach. Rather than solely focusing on specificity, the training might strategically

incorporate rumination and overall memory coherence to increase the potential effectiveness of MEST. Further experimental and clinical studies are required to refine these potential clinical implications.

Conclusion

We explored whether narrative identity was related to psychological functioning. Causal coherence but not redemption was found to be related to lower symptoms of depression and anxiety, lower BPD features and higher levels of well-being. We found that rumination and emotion dysregulation, but not OGM, mediated the relationship between causal coherence and depression and anxiety symptoms, BPD features and well-being. We did not find evidence for attachment security or the emotional tone of the memory moderating the relationship. The findings of this study build upon prior research by offering initial indications that the connection between narrative identity and psychological functioning could be strengthened when considering additional variables. For example, the degree to which an individual engages in ruminate or experiences emotional dysregulation may provide valuable insights. These findings align with the transdiagnostic perspective, suggesting that mechanisms can provide a better understanding of an individual's functioning compared to diagnostic labels. Future research that considers the role of transdiagnostic factors in explaining the relationship between narrative identity and psychological functioning should employ complex statistical analyses, such as structural equation modelling or network analysis. Furthermore, to consider the dynamic relationships among variables, multi-wave longitudinal data is essential to examine how the relationships between narrative identity and psychological functioning might change over time and the causal paths or directions of these associations.

Chapter 4: Study 3

Publication

Corbett, M., Reid, V. R. & Bird, A. L. (2024a). A longitudinal examination of the relationships between narrative identity and transdiagnostic psychological functioning *[Manuscript in revision following reviewers' comments with Emerging Adulthood]*. The manuscript has been re-formatted to be consistent with the overarching thesis style and content.

Abstract

Existing research indicates a reciprocal link between narrative identity and psychopathology development. Current psychopathology perspectives highlight the significance of transdiagnostic processes, exemplified by the Research Domain Criteria (RDoC) framework. This study explored the links between causal coherence in turning point narratives and difficulties in RDoC systems (negative valence, social processes, arousal/regulatory) in young adults (ages 18–25) across two time points. We hypothesised negative reciprocal associations between difficulties in RDoC systems and causal coherence. In a sample of 245 participants at Time 1 and 88 at Time 2 (6 months later), we used an online survey to collect narratives and psychopathology measures that were later organised into RDoC systems. Structural equation modelling via SmartPLS revealed concurrent and longitudinal negative associations between difficulties in the negative valence system and causal coherence. Lower causal coherence predicted later difficulties in the arousal and regulatory system. Difficulties in the social processes system showed no such associations. These findings support the nuanced reciprocal connection between narrative identity and psychopathology, calling for further multi-wave longitudinal and experimental research.

Introduction

The theoretical foundations of narrative identity (Klimstra & Denissen, 2017; McAdams, 1996, 2017, 2019) highlight the importance of a cohesive and agentic self-view for an individual's mental health and well-being. Strong cross-sectional support exists for a relationship between narrative identity and psychological functioning (Adler et al., 2016). Building on this, longitudinal research has also shown that the relationship may be reciprocal, with measures of identity predicting later psychological functioning (Adler et al., 2016; Adler et al., 2015; Baerger & McAdams, 1999; Mitchell et al., 2020; Vanderveren et al., 2021) and psychological functioning contributing to the development of an integrated self (Ridge & Ziebland, 2006; Schwartz et al., 2011). Despite empirical and theoretical support for a reciprocal relationship between narrative identity and psychological functioning, we know little about the psychological processes that may explain the relationship (Klimstra & Denissen, 2017). Psychological processes encompass various mechanisms or factors that can mediate or moderate the observed connection between narrative identity and psychological functioning (Hayes, 2018; Tamayo, 2011). These processes may include various cognitive, emotional, or social processes that play a role in shaping the relationship between narrative identity and overall psychological well-being (Fivush et al., 2011; Williams et al., 2007). Understanding these processes is important for advancing narrative identity theory and refining clinical practice in the intervention and treatment of psychopathology (Kazdin, 2007; Windgassen et al., 2016). The term "psychopathology" is used in our study to encompass a comprehensive understanding of mental health beyond formal diagnoses. While not all participants in our sample may have received a specific clinical diagnosis, we recognise that individuals can experience a range of psychological challenges and difficulties that fall within the spectrum of psychopathology symptoms. The

present study aims to explore these relationships in young adults (ages 18-25 years). This age cohort is of particular interest for narrative identity theory because it combines transitional changes with greater narrative stability.

Theoretical perspectives suggest that young adults navigate life changes and explore different aspects of their identity (McAdams, 1996, 2001) while certain core elements of their self-narratives remain stable (McAdams, 1996, 2001). This developmental stage may, therefore, offer valuable insights into how individuals balance continuity with transformation in their narrative identity. This study explores the relationships between narrative identity and psychological functioning, where the latter is conceptualised according to the underlying cognitive, emotional or social processes. We will investigate longitudinal associations between the causal coherence of turning point narratives and psychopathology symptoms with respect to Research Domain Criteria (RDoC) systems, which conceptualise illness on a spectrum of dysfunction in psychology and biology (Insel et al., 2010).

Recalling a turning point event from one's life is a measure of narrative identity central to understanding an individual's self-concept (McAdams, 1985, 2008a). Based on McAdam's narrative identity theory (McAdams, 1985, 1989, 1996), the capacity to integrate one's experiences, emotions, and behaviours into a coherent and unified concept of self will facilitate psychological well-being (McAdams, 2001, 2018). Grounded in Erikson's (1968) and Marcia's (1966) developmental theories, McAdams (1989) proposes that the establishment of narrative identity follows a developmental trajectory. In adolescence and emerging adulthood, individuals may begin to attempt to answer the question, "Who am I?" As individuals progress through adulthood, they continue to refine and revise this narrative in response to changing circumstances and novel experiences (McAdams, 2001). As such, the developmental period may constrain the

characteristics of the narrative (McAdams, 2018). One way to measure an individual's self-concept within a turning point narrative is through the degree of causal coherence with which the turning point is described.

Causal coherence in turning point narratives is defined as the degree to which the turning point “has contributed to the current self, either in the form of a personality change or a change in perspective” (Mitchell et al., 2020, p. 19). Aspects of causal coherence (such as cohesion) in turning point narratives have been related to several measures of psychological functioning (Baerger & McAdams, 1999; Vanderveren et al., 2021). In one study, cohesion within turning point narratives demonstrated a significant negative correlation with depression and a modestly significant correlation with life satisfaction and happiness (Baerger & McAdams, 1999). In another study, cohesion within turning point narratives was associated with identity disturbances and antisocial personality disorder symptoms (Vanderveren et al., 2021). These findings provide valuable insights into the relationship between narrative identity and psychological functioning. From here, attention has turned to understanding potential causality within this relationship.

Building on McAdams's (1985, 1996) narrative identity theory, Klimstra and Denissen (2017) have theorised that the relationship between narrative identity and psychopathology is likely reciprocal and dynamic. They proposed several models outlining reciprocal links between identity and psychopathology (Klimstra & Denissen, 2017). For example, the *Predisposition model* proposes that individual differences in identity make an individual more or less susceptible to the development of psychopathology. In this framework, specific identity characteristics could be considered vulnerabilities that lead to subsequent psychopathology. In contrast, the *Scar model* proposes that experiences of psychopathology increase the likelihood of experiencing identity disturbances. In this instance, an individual's experience of

psychopathology can adversely affect their personality, resulting in changes to identity characteristics. A growing amount of empirical evidence supports both directions described by Klimstra and Denissen (2017). Despite this, our understanding of the reciprocal relationship between narrative identity and psychopathology within the same longitudinal sample remains limited. To the best of our knowledge, only one study has examined both directions of this relationship within the same sample (Verschueren et al., 2018). Using structural equation modelling (SEM), Verschueren et al. (2018) found that lower identity synthesis predicted higher levels of eating disorder symptoms, while body dissatisfaction and symptoms of bulimia predicted lower identity synthesis. However, the consideration of the relationship between narrative identity and psychopathology beyond eating disorders, which is characterised by maladaptive self-perceptions (Verschueren et al., 2018), remains unexplored.

A number of studies have found evidence supporting the notion that narrative identity predicts later psychological functioning (Adler et al., 2016; Adler et al., 2015). In a longitudinal study by Mitchell et al. (2020), the coherence of turning point narratives was found to predict greater levels of well-being as well as lower depression and anxiety 1 year later. In another study by Vanaken, Bijttebier, et al. (2021), individuals with higher coherence in their narratives about positive personal experiences at baseline showed higher emotional well-being 2 years later. Taken together, there is good reason to believe that narrative identity, specifically the degree of causal coherence in turning point narratives, has the potential to impact subsequent psychological functioning.

The evidence for psychological functioning predicting later narrative identity characteristics is less established, with only one study providing support for this association to the best of our knowledge. This study is the longitudinal study by Verschueren et al. (2018),

which found that body dissatisfaction and symptoms of bulimia predicted identity confusion 2 years later. Even though the theoretical conceptions of narrative identity (Klimstra & Denissen, 2017; McAdams, 1989, 1996) and subsequent research (Mitchell et al., 2020; Ridge & Ziebland, 2006; Vanaken, Bijttebier, et al., 2021; Verschueren et al., 2018) provide preliminary support for a reciprocal relationship between narrative identity and psychological functioning, Klimstra and Denissen (2017) highlight that there is a need to understand the processes that underpin the relationship.

One way to understand the processes underpinning the relationship is to consider psychological functioning from a transdiagnostic perspective. A recent study by Author. et al. (2023b)considered possible transdiagnostic factors mediating or moderating associations between narrative identity and psychopathology symptoms in young adults. Findings indicated that rumination and emotion dysregulation mediated the relationship between lower causal coherence and psychopathology symptoms. Growing evidence supports the utility of considering the transdiagnostic processes that underpin psychopathology versus specific diagnostic symptoms or categories (Fernandez et al., 2016). The conceptualisation of the processes involved in psychopathology can offer a foundation for innovative approaches to consider the development and maintenance of psychopathology and clinical interventions with greater responsivity (Dalgleish et al., 2020).

One way to conceptualise psychopathology based on underlying processes rather than diagnostic categories is by utilising the National Institute of Mental Health Research Domain Criteria (RDoC) framework (Insel et al., 2010). The RDoC framework offers a comprehensive approach to understanding the complex interactions between psychological processes and psychopathology (Insel et al., 2010). To do this, the framework considers the main areas of

human functioning on a neurobehavioural spectrum. Within the RDoC framework, the processes underpinning psychopathology are categorised into 6 broad systems, which include the (1) negative valence system, (2) positive valence system, (3) cognitive system, (4) social processes system, (5) arousal and regulatory system, and (6) sensorimotor system (National Advisory Mental Health Council Workgroup, 2018). Each system can be analysed using the following units: genes, molecules, cells, circuits, physiology, behaviour, and self-report. The present study is specifically interested in the RDoC systems that are associated with forms of psychopathology, such as Borderline Personality Disorder (BPD), depression, and anxiety, given the established links between these disorders and narrative coherence (Author. et al., 2023b). More specifically, the focus areas are the negative valence, social processes, and arousal and regulatory systems.

The RDoC negative valence system is "primarily responsible for responses to aversive situations or context, such as fear, anxiety, and loss" (National Institute of Mental Health, 2011, p. 1). Difficulties in the negative valence system have been implicated in various psychopathologies, including anxiety and depressive disorders (Hasratian et al., 2022). Negative emotional states characterise these disorders, including fear and sadness, which various internal or external stimuli can trigger (Hasratian et al., 2022). Given their potential to implicate memory recall, as outlined below, we consider the following measures (OGM, rumination, depressive symptoms, stress and anxiety symptoms) to evaluate difficulties in the negative valence system in this thesis.

Firstly, OGM is categorised within the negative valence system because autobiographical memory disturbances are a common feature of affective disorders (Köhler et al., 2015). The potential association between OGM and causal coherence could be explained by the use of OGM as an emotional avoidance strategy, helping individuals avoid recalling distressing or traumatic

memories. Secondly, rumination is categorised within the negative valence system because continuous dwelling on negative aspects is a common feature of affective disorders (Luca, 2019; McLaughlin & Nolen-Hoeksema, 2011). The potential association between rumination and causal coherence could be explained by the cognitive pattern impeding an individual's ability to recall autobiographical memories coherently. Thirdly, depressive symptoms are categorised within the negative valence system because depression is linked to the 'loss' construct of this system (Woody & Gibb, 2015). The potential association between depression and causal coherence might be explained by considering that individuals undergoing intense negative emotions, such as guilt or hopelessness, could experience an impact on their cognitive ability to recall memories (Garnefski & Kraaij, 2006). Fourthly, stress is categorised within the negative valence system because stress is often linked to negative emotional experiences and responses (Zhaoyang et al., 2020). The potential association between stress and causal coherence might be explained by considering that individuals under stress may face challenges in utilising cognitive processes to integrate and process traumatic experiences (Clifford et al., 2020; Marin & Shkreli, 2019). Lastly, anxiety symptoms are categorised within the negative valence system because anxiety is linked to the potential threat construct within the negative valence system (Cuthbert & Insel, 2013). Similarly to stress, the potential association between anxiety and causal coherence might be explained by considering that individuals experiencing anxiety may face challenges in utilising cognitive processes to integrate and process experiences.

The RDoC social processes system mediates "responses in interpersonal settings of various types, including perception and interpretation of others' actions" (National Institute of Mental Health, 2012b, p. 1). Difficulties in the social processes system have also been implicated in many forms of psychopathology, including BPD, schizophrenia, anxiety, and autism (Barlow

et al., 2018; National Institute of Mental Health, 2012b). While they differ in underlying aetiology, these disorders are characterised by symptoms and deficits affecting social cognition, perception, and behaviour, such as difficulties in recognising and interpreting social cues or an intense fear of negative evaluation (National Institute of Mental Health, 2012b). Given their potential associations with causal coherence, as outlined below, we consider the following measures (identity disturbances, quality of relationships and attachment state of mind) to evaluate difficulties in the social process system in this thesis.

Firstly, identity disturbances are categorised within the social process system because they are closely linked to the 'self-knowledge' construct within the social process system (National Institute of Mental Health, 2012b). The potential association between identity disturbances and causal coherence could be explained by the idea that individuals with identity disturbances may find themselves more prone to experiencing confusion, unpredictability, and ambiguity when comprehending life challenges and associated emotions (Cox & McAdams, 2014; Erikson, 1968) which could result in a difficulty to integrate and process memories effectively. Secondly, the quality of relationships is categorised within the social process system because it is closely linked to the 'perception and understanding of others' construct within this system (National Institute of Mental Health, 2012b). The potential association between quality of relationships and causal coherence could be explained by the idea that due to a lack of social connectedness or a sense of interpersonal relationships (Berna et al., 2016; McDonnell et al., 2021), individuals may struggle to integrate their experiences. Lastly, although attachment state of mind is considered to encapsulate both trait-and state based measures (Cuyvers et al., 2022), it is recognised as a construct that can predict a number of relationship behaviours (Tan et al., 2016). As such, it is categorised within the social process system because it is closely linked to

the ‘affiliation and attachment’ construct within the social process system (National Institute of Mental Health, 2012b). The potential association between attachment state of mind and causal coherence could be explained by the idea that early childhood social interactions could impact an individual’s memory recall (Clifford et al., 2020; Reese, 2008, 2018).

The RDoC arousal and regulatory system is “responsible for generating activation of neural systems as appropriate for various contexts and providing appropriate homeostatic regulation of such systems as energy” (National Institute of Mental Health, 2012a, p. 1). Difficulties in the arousal and regulatory system have also been implicated across multiple forms of psychopathology, including affective disorders, sleep disorders, substance use disorders, and attention-deficit/hyperactivity disorder (ADHD) (National Institute of Mental Health, 2012a). Given their potential associations with causal coherence, as outlined below, we consider the following measures (emotion dysregulation, impulsivity and instability in various aspects of a person’s life) to evaluate difficulties in the arousal and regulatory system in this thesis.

Firstly, emotion dysregulation is categorised within the arousal and regulatory system because emotion dysregulation is associated with activation of the arousal system (Fernandez et al., 2016). The potential association between emotion dysregulation and causal coherence could be explained by the idea that when an individual experiences intense emotions such as fear or anger, this can interfere with an individual’s cognitive processes (Garnefski & Kraaij, 2006), possibly impact an individual’s capacity for self-reflection (Oostvogels et al., 2018). Secondly, impulsivity is categorised within the arousal and regulatory system because it involves disruptions in regulating cognitive and behavioural responses (Friedman & Robbins, 2022). The potential association between impulsivity and causal coherence could be explained by the idea that individuals who struggle with attentional control (Diamond, 2005) may find it difficult to

focus on key themes or details when recalling memories. Lastly, instability in various aspects of a person's life is categorised within the arousal and regulatory system because a high level of reactivity to emotional stimuli can result in instability (Carpenter & Trull, 2013). The potential association between instability and causal coherence could be explained by the idea that individuals who experience frequent changes in life circumstances may find it difficult to establish a stable sense of self.

The Present Study

The primary aim of the current study was to understand how causal coherence in turning point narratives relates to difficulties in RdoC systems. Existing research has found evidence for a reciprocal relationship between narrative identity and psychological functioning (Adler et al., 2016; Adler et al., 2015; Klimstra & Denissen, 2017; Mitchell et al., 2020; Sajjadi et al., 2021; Vanaken, Bijttebier, et al., 2021; Verschueren et al., 2018). As a result, we expected that difficulties in RdoC systems (H1: negative valence, H2: social processes, H3: arousal and regulatory) would be negatively associated, both concurrently and longitudinally, in a reciprocal manner with narrative coherence. By measuring all constructs at both time points (6 months apart), we also controlled for concurrent measurements.

Method

Participants

To ensure statistical power for our Partial Least Squares path modelling analyses, an a priori power analysis was conducted. As a general guideline, the sample size should exceed 10 times the maximum number of inner or outer model links pointing at any latent variable (Hair et al., 2011). Given that the negative valence system construct is the construct in each model with the largest number of formative indicators (5), the analysis indicated a minimum sample size of

no less than 50 participants.

Participants were young adult undergraduate psychology students (ages 18 – 25 years). In this study, we utilised convenience sampling for its practical advantages in accessing participants efficiently within time and resource constraints. While this method facilitated data collection, we acknowledge the potential sample bias and limited generalisability in the limitations section of this study. Of the *n* = 245 participants who participated at Time 1, *n* = 88 participated approximately 6 months later at Time 2 (resulting in a 36% retention rate). The sample demographics and mental health measures at Time 2 did not significantly differ from Time 1 (see Table 8).

Table 8

Sample Demographics for Participants at Time 1 and Time 2

	Time 1 *n* = 245	Time 2 *n* = 88	*Z*	*p*
Age	19.6 ± 1.9 years	19.5 ± 1.9 years	-.373[b]	.709
Gender	80 % female	84 % female	-1.147[b]	.252
Ethnicity			-.594[b]	.553
New Zealand European	*n* = 163, 67%	*n* = 55, 62%		
Māori	*n* = 36, 15%	*n* = 15, 17%		
Pacific Islander	*n* = 11, 5%	*n* = 6, 7%		
Asian	*n* = 23, 9%	*n* = 8, 9%		
Other	*n* = 12, 5%	*n* = 5%		
Mental Health Status			-.114[b]	.909
No diagnosis or symptoms	*n* = 120, 49%	*n* = 37, 42%		
Experiences symptoms	*n* = 52, 21%	*n* = 25, 28%		
Mental illness diagnosis	*n* = 74, 30%	*n* = 26, 30%		

Note. *N* = sample size; Z = Wilcoxon signed-rank test statistic; *p* = significance level (two-tailed)

It is important to note that existing research has found undergraduate students in humanities disciplines to be more likely to report symptoms of depression and anxiety, engage in non-suicidal self-injury and suicidal ideation, and meet criteria for at least one mental health

disorder when contrasted with other undergraduates (Lipson et al., 2016). As such, the prevalence of mental illness symptoms and diagnoses in this study's sample may be higher compared to that of young adults in the general population. Furthermore, the high prevalence of females in the sample is consistent with demographics in the humanities discipline (Trusz, 2020).

Measures

Causal Coherence of Turning Point Narratives

Turning Point Narrative Task. To assess narrative identity, we used an abbreviated version of McAdams et al.'s (2006) life story interview that asked participants to describe a "turning point" from their life stories. Prior research has demonstrated the validity of this approach to measuring narrative identity, as evidenced by its significant associations with measures of psychological well-being (Reese et al., 2017; Salmon et al., 2021; Tavernier & Willoughby, 2012). Additional details regarding the turning point narrative instructions can be found in the supplementary materials (Appendix D).

Turning Point Narrative Coding. For the evaluation of the coherence of the turning point narratives, we employed a 4-point scale adapted from Habermas and de Silveira's (2008) and consistent with previous studies by Mitchell et al. (2020), Reese et al. (2014) and Chen et al. (2012) (see Appendix E for the values and examples). This scale measures the degree to which the turning point event has contributed to changes in the participants' self-concept or personality. To assess inter-coder reliability in calculating intra-class correlation (ICC), we employed a two-way random effect model based on single measures and absolute agreement. The first and third authors carried out the reliability coding. For inter-coder reliability, the coders independently coded 20% of the turning point narratives, and any disagreements were resolved through consensus. Subsequently, the first author completed the coding for the remaining turning point

narratives. The ICC for causal coherence was 0.77 at Time 1 and 0.87 at Time 2, aligning with findings from other studies that used this scale to evaluate causal coherence in turning points (ICC = 0.70; Mitchell et al., 2020).

RdoC Systems

The scoring within each system reflects the level of difficulties in processes, with higher scores indicating greater challenges or impairments within that specific system. It's important to note that higher scores within a RdoC system correspond to higher difficulties in the underlying processes assessed by the specific self-report measures utilised to evaluate that system.

Negative valence system

Overgeneral Memory: The Minimal Instructions Autobiographical Memory Test (MiAMT), created by Debeer et al. (2009), consists of 10 items designed to measure an individual's level of overgeneral memory. Participants are presented with ten cue words[4], one at a time, and are asked to describe a specific memory for each cue word. The cue words alternate between five positive and five negative emotion words.

Overgeneral Memory Coding and Reliability: In accordance with Vanderveren et al. (2019), a binary approach was utilised to code memory specificity, as adapted from Debeer et al. (2009) and Gutenbrunner et al. (2019) (see Appendix G for values and examples). Memories were considered specific if they referred to a clearly defined event lasting less than one day. In contrast, memories were considered overgeneral if they did not refer to a definable single event

[4] The cue words used were happy, lucky, proud, excited, and relaxed (Set 1), and sad, angry, lonely, guilty and scared (Set 2).

(e.g., “each year on my birthday”) and/or the event lasted longer than one day. To calculate the proportion of overgeneral memories, the number of overgeneral memories was divided by ten and subtracted from the number of omissions. Excluded from the analysis were memories characterised as specific events (e.g., "when I go running"), along with semantic associations, future-oriented content, repetitions, incomplete responses, and omissions. This exclusionary approach aligns with the methodology introduced by Takano et al. (2017), as these aspects were unrelated to the research hypothesis. The inter-rater reliability was assessed using an ICC two-way random effect model based on single measures and absolute agreement. It was found to be 0.86 for Time 1 and .80 for Time 2, consistent with other studies measuring overgeneral memory using the AMT (0.75: Gutenbrunner et al. (2019), 0.93: Warne et al. (2019)).

Rumination: The Ruminative Response Scale (RRS) is a self-report scale with 22 items, created by Treynor et al. (2003), which measures repetitive, ruminative thinking and behaviour that individuals engage in following feelings of distress. Using a 4-point scale, participants indicate the extent to which they think about and act on distress and its causes. The total RRS score is computed by combining all scores and has shown good reliability and validity in assessing rumination in both community and clinical samples (Parola et al., 2017; Roelofs et al., 2006). RRS has excellent internal consistency, with Cronbach’s α 0.92. Internal consistency in the current sample was Cronbach's α of 0.92 for Time 1 and 0.94 for Time 2.

Depression, Anxiety and Stress***:*** The Depression Anxiety Stress Scales (DASS-21; Lovibond & Lovibond, 1995) is a self-report measure comprising 21 items designed to assess the degree of depression, anxiety, and stress experienced by individuals. Participants are required to rate the severity or frequency of their experience for each state in the past week using a 4-point scale. Scores for depression, anxiety, and stress were obtained by summing the relevant items

and have shown good reliability and validity with Cronbach's α = 0.81 (depression), α = 0.89 (anxiety), α = 0.89 (stress) in previous studies (Coker et al., 2018). In the current study, internal consistencies for depression, anxiety, and stress were Cronbach's α = 0.89, α = 0.80, α = 0.81, respectively, for Time 1 and α = 0.91, α = 0.84, α = 0.84 for Time 2.

Social processes system

Attachment security: The Relationship Questionnaire (RQ), a self-report scale comprising four items, was developed by Bartholomew and Horowitz (1991). This scale evaluates adult attachment styles, including secure, fearful, preoccupied, and dismissing. Participants are asked to select the relationship style that best describes them. Scores are interpreted categorically to determine the participant's attachment style. Although internal consistency is not calculable, test-retest reliability is estimated at 0.74–0.88 (Ligiéro & Gelso, 2002).

Identity problems and negative relationships: The identity problems and negative relationships scales are 2 of the 4 subscales of the Personality Assessment Inventory-Borderline Scale (PAI-BOR) by Morey (1991). These will be used as constructs to measure functioning in the social processes system. The identity problems scale comprises 6 items that assess the concept of self. The degree to which the self-image shifts can include sudden changes in opinions, sexual identity, friendships, or career paths (Distel et al., 2010). In the current sample, the internal consistencies at Time 1 were Cronbach's α = 0.67, and Time 2 was α = 0.68. The negative relationships scale assesses the degree to which relationships are unstable and turbulent and feelings of loneliness are experienced (Distel et al., 2010). In the current sample, the internal consistencies at Time 1 were Cronbach's α = 0.64, and Time 2 was α = 0.67. Participants rate how much each statement applies to them on a 4-point scale. The scores for the total PAI-BOR and its subscales are computed and have demonstrated good scale validity and reliability, with

Cronbach's α of 0.80 (Murphy, 2020).

Arousal and regulatory system

Emotion dysregulation: The Difficulties in Emotion Regulation Scale (DERS) was developed by Gratz and Roemer (2004) as a 36-item self-report scale to assess individuals' challenges in regulating emotions. The DERS comprises 6 subscales, each measuring a particular dimension of emotion dysregulation, including non-acceptance, goals, impulse, awareness, strategies, and clarity. Participants use a 5-point scale to answer questions regarding their arousal, acceptance, understanding, and awareness of their emotions and their capacity to behave according to their desired goals despite their emotional state. The total DERS score and subscale scores are computed from these responses. The DERS has shown good test-retest reliability and acceptable validity (Gratz & Roemer, 2004), and in a recent review paper, Cronbach's α was reported as 0.95 (Charak et al., 2019). In the current study, the internal consistencies for the DERS were Cronbach's α = 0.95 for Time 1 and 0.95 for Time 2.

Emotional impulsivity and affective instability: The impulsivity and affective instability scales are 2 of the 4 subscales of the Personality Assessment Inventory-Borderline Scale (PAI-BOR) by Morey (1991), which will be used as constructs to measure functioning in the arousal and regulatory system. The impulsivity subscale comprises 6 items assessing the degree of self-damaging impulsive behaviour, such as self-harm and excessive spending (Distel et al., 2010). In the current sample, the internal consistencies at Time 1 were Cronbach's α = 0.80, and Time 2 was α = 0.85. The affective instability subscale comprises 6 items that assess the degree to which an individual experiences rapid shifts in mood. Essentially, the degree to which moods fluctuate between states of anger, panic, anxiety, or despair, with rare moments of relief such as feelings of well-being or satisfaction. (Distel et al., 2010). In the current sample, the internal

consistencies at Time 1 were Cronbach's α = 0.77, and Time 2 was α = 0.82. The scores for the total PAI-BOR and its subscales are computed and have demonstrated good scale validity and reliability, with Cronbach's α of 0.80 (Murphy, 2020).

Procedure

All participants were asked to complete a ≈60-minute online survey via Qualtrics (https://www.qualtrics.com/). After completing a consent form and basic demographic questionnaire, the measures were administered in the order of MiAMT, turning point narrative task, DASS, PAI-BOR, RRS, DERS, and RQ. Finally, participants were presented with a debrief form that explained the benefits of the research and provided contact details for service providers should the participants experience any research-related distress. Approximately 6 months later, participants were invited via email to complete the online survey again. We chose to focus on two time points 6 months apart to reduce challenges associated with participant retention by recruiting students within a single academic year. Furthermore, given that this is the first study to consider the reciprocal relationship between causal coherence in turning point narratives and psychological processes, the time frame allows for initial exploration to refine methodologies that can guide future research. The relevant Human Research Ethics Committee approved this research. To analyse associations from a process-oriented perspective, we organised self-report measures into corresponding RdoC Systems based on the RdoC matrix (National Institute of Mental Health, 2011, 2012a, 2012b). Elevated scores on the self-report measures signified increased difficulties in the corresponding RdoC system. For instance, heightened self-reported symptoms of emotion dysregulation (as assessed by The Difficulties in Emotion Regulation Scale) and increased self-reported scores of emotional impulsivity (as assessed by the impulsivity and affective instability subscale on the Personality Assessment Inventory-

Borderline Scale) indicated greater difficulties in the arousal and regulatory RdoC system.

Data Analyses

Data analysis was conducted using SPSS Version 27.0 (IBM Corp, 2020) and Smart PLS. For scales where less than two items were missing responses, the scores were calculated using the average of the available items within the corresponding subscales. The total missing data points at Time 1 were $n = 7$ for the PAI-BOR scale and $n = 4$ for the RRS scale. The research model was tested through the Partial Least Square path modelling technique using SmartPLS version 4.0 (Ringle et al., 2022). The reasons for choosing this technique were (a) the measures used in the model are considered to contribute or cause the unobserved variable (formative variables) rather than a manifestation of the unobserved variable (reflective variables) (Hair et al., 2019) and (b) the partial least squares approach is robust to violations of normality assumptions and is efficient regarding small sample sizes (Hair et al., 2019). Due to the study's longitudinal design and the pairwise deletion approach to handling missing data, the sample size for each part of the model differs ($n = 245$ at Time 1 and $n = 88$ at Time 2). Bootstrapping was used to estimate the standard errors, *t*-values, and *p*-values of the parameter estimates in the formative SmartPLS model. A total of 5,000 bootstrap samples were drawn using the non-parametric percentile method, and a 95% confidence interval was used.

The analysis of the models involved two stages: the outer model assessment (i.e., the measurement model) and the inner model assessment (i.e., the structural model) (Henseler et al., 2009). The measurement model in a SmartPLS SEM is responsible for assessing the reliability and validity of the indicator variables. While the general approach is to remove indicator variables from a formative model with weak (<4) and insignificant (<0.05) loadings (Henseler et al., 2009), the decision to leave an indicator variable in a formative model should be based on

carefully considering both theoretical and empirical factors (Hair et al., 2019). Removing a non-significant indicator from the model should not be solely based on statistical significance as it could compromise the validity of the construct variable (Hair et al., 2019). As highlighted by Riou et al. (2016, p. 224) "modifying a theoretical model should never be done only on the basis of statistical outcomes" (Riou et al., 2016, p. 224). In our initial model assessments, we observed that the inclusion or exclusion of non-significant loadings did not yield statistically significant variations in the overall model outcomes. Given the theoretical and empirical support for the indicator variables in measuring dimensions of the RdoC Systems and potential associations with causal coherence (as outlined in the introduction) we have chosen to retain them in our models.

When using formative measurement models, high collinearity among indicators can lead to issues in estimating parameters accurately. To address this concern, the maximum variance inflation factor (VIF) was calculated to test for multicollinearity. A VIF value below 3.3 is typically suggested for a comprehensive evaluation, but a value below 10 can also be acceptable (Petter et al., 2007). A SmartPLS SEM's structural model evaluates the relationship among the indicator variables (Henseler et al., 2009). It tests the hypothesised relationships between the variables and provides information about the strength and direction of those relationships.

Results

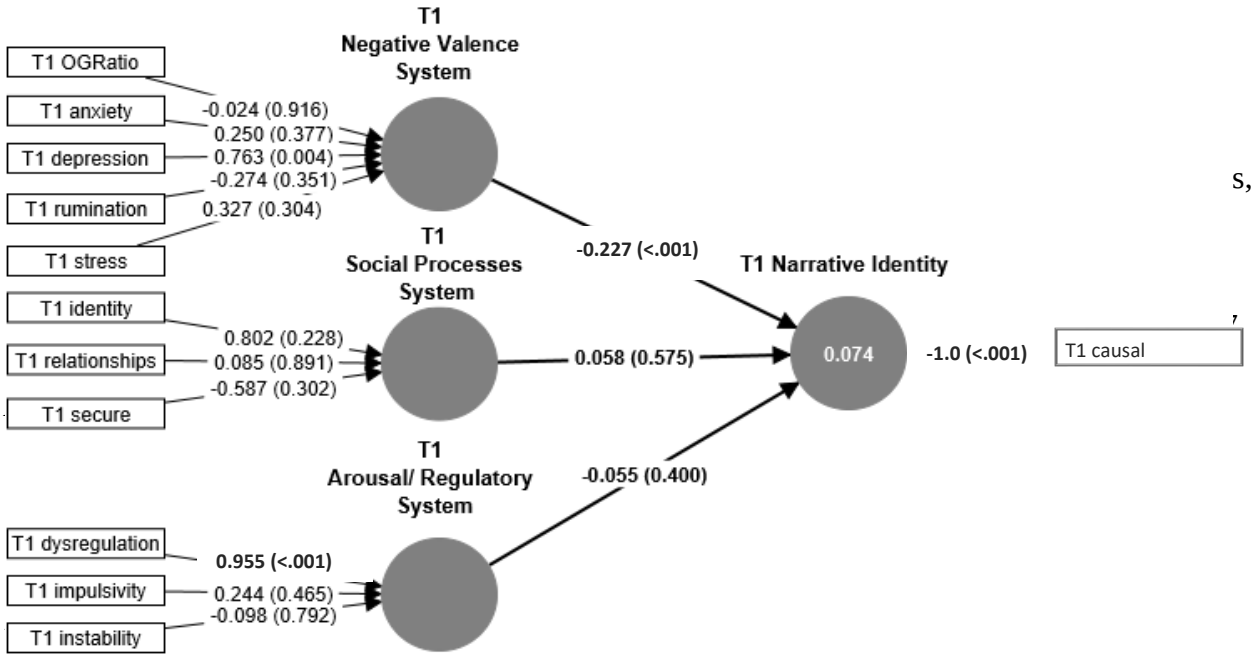
Concurrent Associations between Narrative Identity and RdoC System at Time 1

Assessment of the measurement model at Time 1. All formative constructs in the model (Figure 5) had a VIF value lower than 2.13, which indicates low multicollinearity among the indicators and suggest that each variable is capturing a distinct aspect of the underlying construct, thereby enhancing the construct validity of the measurement model. As shown in Figure 5, the negative valence system was measured by five formative indicators: OG ratio,

anxiety, depression, rumination, and stress. Depression was the only indicator to load onto the negative valence system significantly (0.763, $p = 0.004$). The social processes system was measured by three formative indicators: identity problems, relationship difficulties, and attachment security. No indicator variables were significantly loaded onto the social processes system. Lastly, the arousal and regulatory system was measured by three formative indicators: impulsivity, emotion dysregulation, and emotional instability. Emotion dysregulation was the only indicator to load onto the arousal and regulatory system significantly (0.955, $p = 0.000$). Given the theoretical rationale for the non-significant indicators measuring aspects of the RdoC systems, they were retained in the model as valid measures.

Figure 5

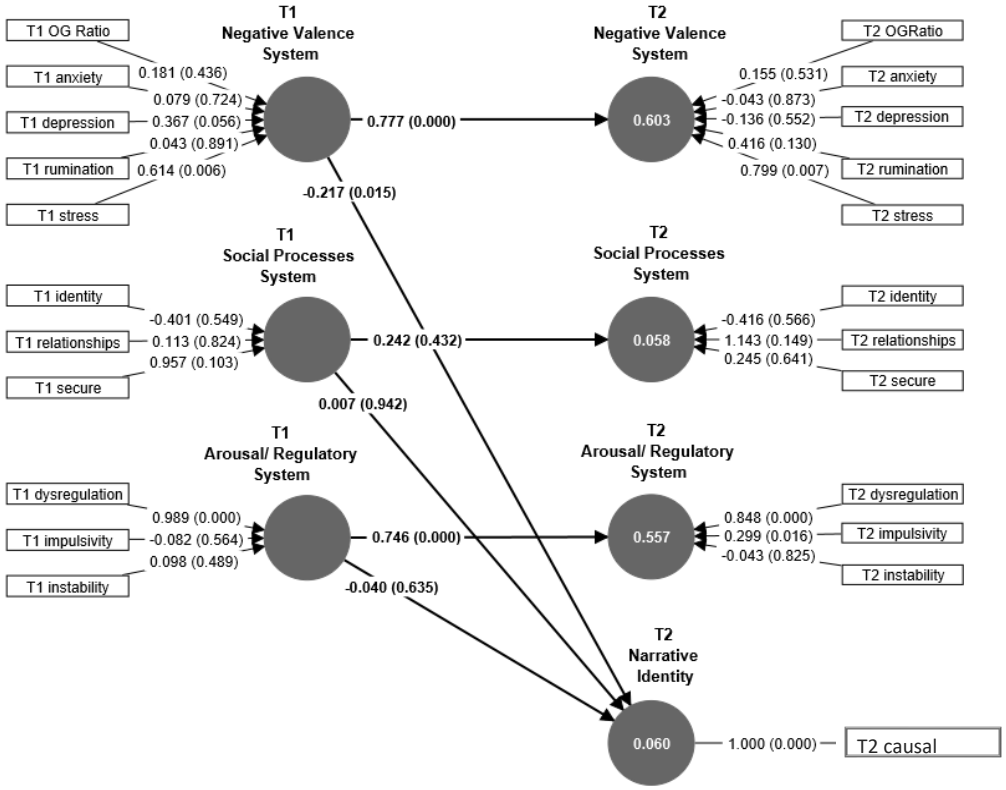
Measurement and Structural Model showing Concurrent Associations between RdoC Systems of Psychopathology Symptoms and Causal Coherence of Turning Point Narratives. Path coefficients are shown, with p values in parentheses.



Assessment of the measurement model at Time 1. All of our formative constructs in the model (Figure 6) had a VIF value lower than 2.849, which indicates good construct validity of our formative indicators. All the formative constructs are found to be valid. As shown in Figure 6, the negative valence system was measured by five formative indicators: OG ratio, anxiety, depression, rumination, and stress. Stress was the only indicator variable to significantly load onto the negative valence system (0.614, $p = 0.006$). The social processes system was measured by three formative indicators: identity problems, relationship difficulties, and attachment security. No indicator variables significantly loaded onto the social processes system. Lastly, the arousal and regulatory system was measured by three formative indicators: impulsivity, emotion dysregulation, and emotional instability. Emotion dysregulation was the only indicator variable to load onto the arousal and regulatory system significantly (0.989, $p = 0.000$). Given the theoretical rationale for the non-significant indicators measuring aspects of the RdoC system, they were retained in the model as valid measures.

Figure 6

Measurement and Structural Model showing Longitudinal Associations between RdoC System at Time 1 and Causal Coherence of Turning Points at Time 2 (6 months later). Path coefficients are shown, with p values in parentheses.



Assessment of the structural model. As shown in Figure 6, the structural model examined the associations between the RdoC system (negative valence, social processes and arousal and regulatory) at Time 1 and the causal coherence of turning point narratives 6 months later at Time 2 while also accounting for changes in RdoC system functioning over time. Findings revealed that difficulties in the negative valence system predicted reduced causal coherence 6 months later (-0.217, $p < 0.015$). No significant relationships existed between difficulties in the Time 1 social processes system or the arousal and regulatory system and Time 2 causal coherence. The formative indicators at Time 1 explained 6% of the variance in the

causal coherence of turning points at Time 2.

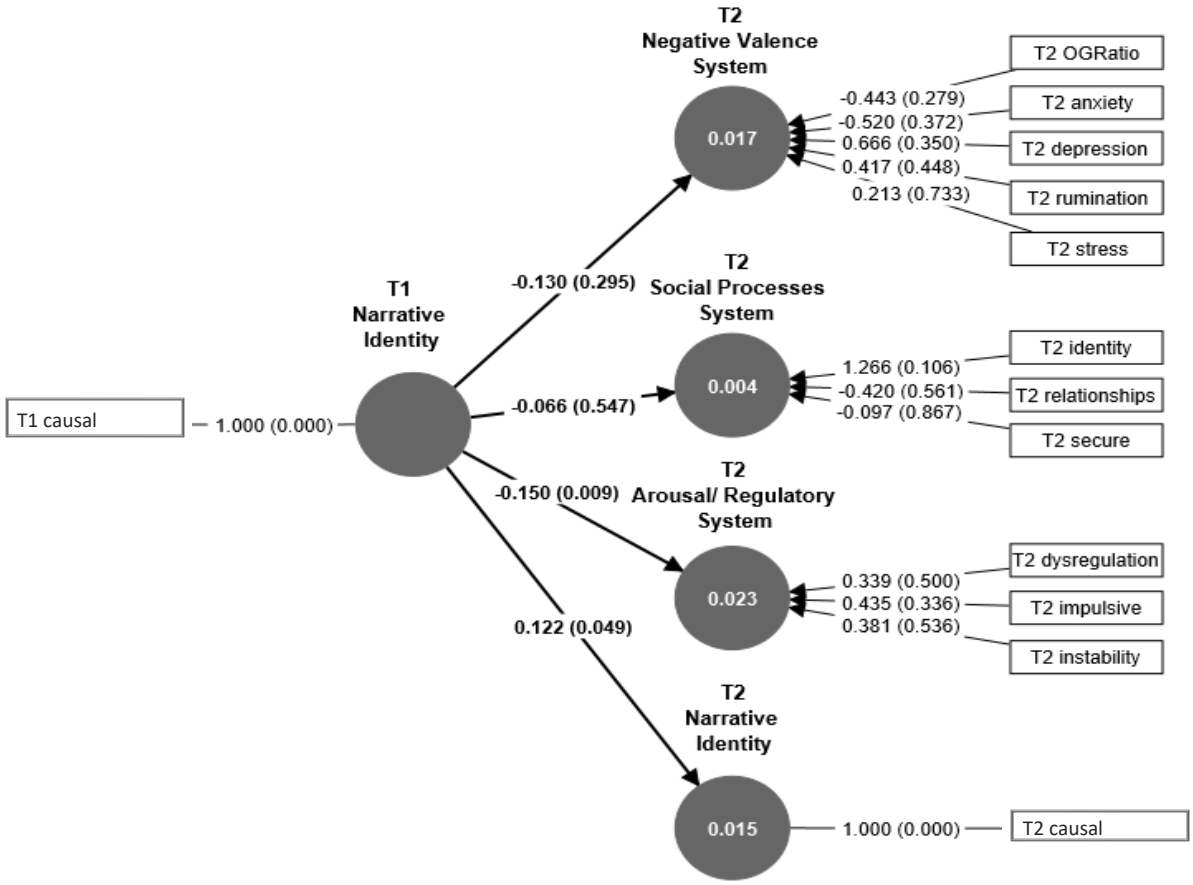
The model also indicated that difficulties in the negative valence system at Time 1 significantly predicted difficulties in the negative valence system at Time 2 (0.777, $p = 0.000$). Difficulties in the arousal and regulatory system at Time 1 were a significant predictor of difficulties in the arousal and regulatory system at Time 2 (0.746, $p = 0.000$). However, difficulties in the social processes system at Time 1 were not a significant predictor of difficulties in the social processes at Time 2 (0.242, $p = 0.432$) (Figure 6).

Longitudinal Associations between Time 1 Causal Coherence and Time 2 RdoC Systems

Assessment of the measurement model at Time 2. All of our formative constructs in the model (Figure 7) had a VIF value lower than 3.548, which indicates average construct validity of our formative indicators. As shown in Figure 7, the negative valence system was measured by five formative indicators: OG ratio, anxiety, depression, rumination, and stress. No indicator variables significantly loaded onto the negative valence system. The social processes system was measured by three formative indicators: identity problems, relationship difficulties, and attachment security. No indicator variables significantly loaded onto the social processes system. Lastly, the arousal and regulatory system was measured by three formative indicators: impulsivity, emotion dysregulation, and emotional instability. No indicator variables significantly loaded onto the arousal and regulatory system. Given the theoretical rationale for the non-significant indicators measuring aspects of the RdoC systems, they were retained in the model as valid measures.

Figure 7

Measurement and Structural Model showing Longitudinal Associations between Causal Coherence of Turning Point Narratives at Time 1 and RdoC Systems at Time 2 (6 months later). Path coefficients are shown, with p values in parentheses.



Assessment of the structural model. As shown in Figure 7, the structural model examined the associations between the causal coherence of turning point narratives and the RdoC systems (negative valence, social processes, and arousal and regulatory) 6 months later while accounting for changes in RdoC systems over time. Lower causal coherence of turning point narratives at Time 1 predicted higher difficulties in the arousal and regulatory system at

Time 2 (-0.150, $p = 0.009$). No significant relationships existed between Time 1 causal coherence and Time 2 difficulties in the negative valence or social processes system. The causal coherence of turning points at Time 1 explained 4.4% of the variance in the RdoC systems at Time 2 (negative valence system: 1.7%, social processes system: 0.4%, and arousal and regulatory system: 2.3%). The model also showed that causal coherence in turning point narratives at Time 1 significantly predicted causal coherence at Time 2 ($r = 0.122$, $p = 0.049$).

Discussion

The current study examined a cohort of young adult undergraduates in New Zealand to explore concurrent and longitudinal associations between the coherence of turning point narratives and difficulties in RdoC systems (negative valence, social processes, and arousal and regulatory). We also examined changes in the causal coherence of turning point narratives in a subsample of participants 6 months later.

Negative Valence System

We anticipated that difficulties in the negative valence system would be negatively associated, both concurrently and longitudinally, in a reciprocal manner with narrative coherence. This hypothesis received partial support. There was support for a concurrent negative association between difficulties in the negative valence system and narrative coherence, suggesting that individuals who provided less elaboration on the degree to which their turning point event influenced changes in their self-concept or personality were more likely to be experiencing a current negative emotional state, such as fear, sadness, guilt, and anger. Longitudinal associations show that difficulties in the Time 1 negative valence system were associated with lower causal coherence at Time 2. However, we did not find support for Time 1 causal coherence predicting difficulties in the Time 2 negative valence system. These findings suggest that

individuals experiencing a negative emotional state were less likely to elaborate on how their turning point event influenced changes in their self-concept or personality 6 months later. Consistent with previous research, our findings support the position that negative emotions may disrupt cognitive processes, including memory retrieval and organisation (Clifford et al., 2020; Garnefski & Kraaij, 2006; Marin & Shkreli, 2019; Phelps, 2004), which are in turn essential for creating coherent narratives.

The finding that difficulties in the negative valence system predicted reduced causal coherence in turning points 6 months later is consistent with the eating disorder and identity formation literature. In a longitudinal study of n = 530 adolescents, Verschueren et al. (2018) foundthat individuals with body dissatisfaction (which is associated with indicators of the negative valence system (Barnes et al., 2020; Etu & Gray, 2010)) were more likely to develop increased identity confusion over time.

One possible explanation for the null finding of a longitudinal association from earlier causal coherence to later difficulties in the negative valence system could be due to the moderating effects of other variables. Cognitive flexibility, which was not measured in the current study, could be one such moderator. It may be that high levels of difficulties in the negative valence system reduce later narrative coherence, but only for individuals who also experience low cognitive flexibility. On the other hand, individuals with high levels of cognitive flexibility may be better equipped to manage difficulties in the negative valence system and coherently recall their narratives. Consistent with this explanation, research has found cognitive flexibility, which is the individual's ability to adapt and shift their thinking in response to new or changing situations, to moderate the relationship between vulnerability factors and psychopathology symptoms (Amédée et al., 2022; Fu & Chow, 2017).

Social Processes System

We did not find support for our prediction that difficulties in the social process system would be negatively associated with narrative coherence concurrently or longitudinally. It is possible that social processes, such as attachment style or interpersonal interactions, are not directly related to an individual's ability to construct a causally coherent turning point narrative. However, this finding is surprising considering the empirical and theoretical support for social processes relating to narrative identity (Berna et al., 2016; Graci & Fivush, 2017; McDonnell et al., 2021; McLean, Pasupathi, & Syed, 2023; Reese, 2018; Reese et al., 2011). Yet similarly, Author. et al. (2023b) found that attachment style did not moderate the relationship between narrative identity and psychological functioning, contrary to initial expectations. Author. et al. (2023b) proposed that the strategy of emotional avoidance, where individuals intentionally avoid recalling narratives likely to elicit emotional distress, might contribute to the lack of associations between attachment and observed causal coherence difficulties. The Adult Attachment Interview (AAI) (Main & Goldwyn, 1998) was developed to activate the attachment system by surprising the unconscious. It may, therefore, be a better measure of difficulties in the social process system in relation to narrative identity than the self-report measure of attachment utilised in this study.

Another possible explanation could be the instability of functioning in the social processes system during young adulthood. Unlike the negative valence or arousal and regulatory system, our findings suggest that difficulties in the social processes system were unstable across 6 months. Consistent with this finding, research has shown that transitions in social processes characterise adolescence and young adulthood (Shanahan, 2000). These transitions in social processes may be particularly evident for young adult undergraduate students. For example, while they have committed to social roles by selecting a field of interest to pursue academically,

they may also experience substantial social challenges, including moving away from home and support networks and establishing new friendships. As such, the instability of social processes throughout this developmental stage could explain the null finding between difficulties in the social process system and narrative coherence.

Arousal and Regulatory System

Our third hypothesis proposed that difficulties in the arousal and regulatory system would be negatively associated, both concurrently and longitudinally, in a reciprocal manner with narrative coherence and received partial support. Our findings revealed that reduced narrative coherence at Time 1 predicted difficulties in the arousal and regulatory system at Time 2. Although the associations were in the expected direction, we did not find support for concurrent associations between causal coherence and difficulties in the negative valence system, nor for longitudinal associations between difficulties in arousal and regulatory system at Time 1 and reduced causal coherence at Time 2.

Individuals who provided greater elaboration on the degree to which their turning point event influenced changes in their self-concept or personality at Time 1 tended to experience lower manifestations of arousal and dysregulation at Time 2. One possible explanation for this finding is that individuals who can better construct causally coherent narratives and make sense of turning points may experience reduced emotional arousal and improved self-regulation over time during early adulthood. In this way, narrative coherence may act as a form of psychological integration that facilitates later emotional regulation. Causally coherent narratives may provide a sense of order and understanding, which can help individuals manage their emotional and cognitive arousal. This phenomenon may be particularly true for turning point narratives with high emotional and personal salience (Buxton, 2016). Consistent with this perspective, Cox and

McAdams (2014) found that meaning-making, a type of narrative coherence, predicted emotion regulation two years later in a sample of mid-life adults (ages 55 to 58 years at study inception). As such, our findings extend Cox and McAdams' (2014) to emerging adulthood, underscoring the continuity of narrative coherence's importance in emotional regulation from young adult adulthood through to mid-life adulthood. In terms of potential clinical implications, given the established effectiveness of early interventions (Parry, 1992), our findings point to the idea that narrative-focused interventions may hold the greatest potential for significantly enhancing emotional well-being and optimising therapeutic outcomes when implemented during the early stages of young adulthood. However, further longitudinal and experimental research in this domain is necessary for a more comprehensive understanding.

Difficulties in the arousal and regulatory system was neither a concurrent nor longitudinal predictor of reduced causal coherence in turning point narratives. It is possible that narrative difficulties are only observed if recalling the memory elicits enough emotional response to activate the underlying neural mechanisms (Bremner, 2006). In this instance, when an individual is emotionally dysregulated, they, in turn, experience impaired frontal lobe functioning, which is responsible for interpersonal communication and memory retrieval (Bremner, 2006). Given that the participants could choose when to complete the survey, they may have been more likely to choose to complete it when calm and regulated (Gratz & Roemer, 2004). As such, an accurate measure of communication difficulties may not be observed, particularly if the individual engages in emotional avoidance when sharing their turning point narrative (Oppenheim & Waters, 1995).

Stability of Causal Coherence in Turning Points

Although not a main hypothesis of the study, we also found that narrative coherence remained stable over time in our young adulthood sample aged 18 to 25 years. Specifically, when examining changes from Time 1 to Time 2 causal coherence (measured 6 months apart), we found a significant path coefficient of 0.12 ($p < 0.05$). This finding suggests that causal coherence demonstrated some stability over this short timeframe within the emerging adult age group. These findings build upon the work of Mitchell et al. (2020), who conducted a study with an adolescent sample aged 14 to 18. Mitchell's research revealed a higher level of narrative stability among the adolescent sample, illustrated by a correlation coefficient of 0.47 ($p < 0.01$) between Time 1 causal coherence and Time 2 causal coherence measured one year later. The finding that the emerging adulthood cohort had lower stability in turning point causal coherence than the adolescent sample is inconsistent with existing empirical studies and theoretical perspectives (Habermas & de Silveira, 2008; Köber et al., 2015; McAdams, 2001). One possible explanation for this could be the psychological functioning of our sample. Given the proportion of participants experiencing mental illness symptoms or having a mental illness diagnosis (almost half of our sample), the coherence may not be generalisable to narrative coherence in a typical young adult community sample. This reasoning is consistent with the empirical support for associations between reduced causal coherence and psychopathology (Baerger & McAdams, 1999; Vanderveren et al., 2021). Taken together, while age may moderate the stability of causal coherence over time, experiences of psychopathology may also be important to consider. Further research is necessary to explore the factors driving these differences in narrative stability across age groups and timeframes.

Strengths and Limitations

Notable strengths of the study include the longitudinal design and the structural equation modelling approach, which enabled the analysis of complex relationships. An additional unanticipated strength of the study lies in the psychological functioning of the sample. A considerable portion of our community sample exhibited symptoms of a mental illness (21%) or had a diagnosed mental illness (30%). As such, these findings may hold relevance for outpatient clinical samples. It is, however, important to recognise that the sample consisted of undergraduate psychology students, a specific group with some homogeneous factors, which could constrain the generalisability of these results to the wider population. While the findings offer preliminary support for a reciprocal relationship between narrative identity and psychopathology, multi-wave longitudinal and experimental research that considers the developmental stage can attest to both the direction and stability of measures over time, which is necessary for a better understanding of the processes that contribute to the development and maintenance of psychopathology.

Furthermore, analyses considering the RDoC system's different constructs may provide additional insight. For example, future research may consider additional constructs within the social processes system, such as (1) affiliation and (different measurement of) attachment, (2) social communication, (3) perception and understanding of self, and (4) perception and understanding of others. It is plausible that interpersonal and intrapersonal social processes relate differently to narrative identity. Furthermore, differentiating between trait-like and state-like aspects of attachment (Cuyvers et al., 2022) may reveal different associations with causal coherence.

In addition to the findings above, our study also revealed a number of null findings,

which can offer valuable insights for future research. One such explanation for the null findings could be because of the way that difficulties in the RDoC systems were evaluated. Research that measures the systems at a construct and sub-construct level may reveal different patterns of association with aspects of narrative identity. For example, given that the self-concept is central to narrative identity (McAdams, 1985) within the social processes system (National Institute of Mental Health, 2012b), measuring agency and self-knowledge as measures of perception and understanding of self could reveal stronger associations with narrative identity compared with, for example, measuring reception of facial and non-facial social communication. One way to approach this could be to utilise the statistical approach of network analyses. Network analyses can determine the strength and direction of associations while considering the influence of other variables within the network (Borsboom et al., 2021). As such, this approach may help identify the most important or influential variables in understanding the relationships. The network analysis findings could also be useful for informing structural equation models as they can help refine and specify the variables for inclusion (Borsboom et al., 2021).

Implications

Even though it is important to interpret the current study's findings with the necessary caution, it is evident that exploring longitudinal relationships between narrative identity and difficulties in RDoC systems yields valuable insights. It could broaden our understanding of how narrative identity may relate to different psychological processes at different points in time. Potentially important clinical implications may also be uncovered. By examining how narrative identity interacts with RDoC systems longitudinally, clinicians can potentially optimise the timing of intervention and treatment strategies to promote positive therapeutic outcomes (Beck, 2020). For example, addressing narrative coherence in the early stages of therapy for young

adults may promote better outcomes regarding later emotional regulation. In this instance, addressing narrative coherence in therapy could facilitate emotional expression, cognitive processing, and the establishment of meaning-making (Cox & McAdams, 2014; Tull et al., 2020). Furthermore, constructing coherent narratives requires the regulation of emotions, which the memories themselves may elicit (Cox & McAdams, 2014). In turn, these processes, embedded within a supportive therapeutic relationship, could contribute to improved emotional regulation over time. At this stage, further multi-wave longitudinal and experimental studies are required.

Conclusion

We explored whether difficulties in the RDoC systems: the negative valence system, the social processes system, and the arousal and regulatory system, would be negatively associated, both concurrently and longitudinally, in a reciprocal manner with coherence in turning point narratives. We also examined the stability of coherence in turning point narratives over time. We found that difficulties in the negative valence system were concurrently and longitudinally associated with reduced turning point causal coherence. We did not find support for concurrent or longitudinal associations with difficulties in the social process system. We found that reduced turning point causal coherence predicted difficulties in the arousal and regulatory system 6 months later. Finally, we found that the causal coherence of turning point narratives was stable 6 months later in young adulthood. The present study's findings expand upon earlier research by offering initial evidence that a reciprocal relationship exists between narrative identity and psychopathology. Further, our findings reveal the complexities of the relationship by demonstrating unidirectional associations with difficulties in different RDoC systems.

Chapter 5: Study 4

Publication

This is a peer-reviewed version of the following article: Corbett, M., Reid, V. R. & Bird, A. L. (2024b). “My disorder is who I am”: Exploring the role of identification with psychopathology in the relationship between identity and psychopathology [*Manuscript to be submitted]*. The manuscript has been re-formatted to be consistent with the overarching thesis style and content.

Abstract

Prior work supports the notion that markers of psychopathology can become a central part of one’s identity. Our understanding remains limited in terms of the underlying process and how the level of identification relates to specific indicators of psychological functioning. This study aims to investigate the relationship between identification with psychopathology in turning point narratives and psychopathology symptoms. A sample of n = 245 community young adults (ages 18 – 25) and n = 30 in-patient clinical young adults (ages 18 – 39) shared a turning point event from their life story. They completed measures of psychopathology symptoms (depression, anxiety, borderline personality disorder (BPD) features, rumination, and emotion dysregulation). A novel coding scheme was developed to determine the degree of identification with psychopathology within turning point narratives. The results revealed that higher identification with psychopathology was associated with higher symptoms of depression, anxiety, BPD, rumination and emotion dysregulation. Multinomial regression analysis revealed that for the community group, identification with psychopathology predicted which mental health group an individual belongs to, above and beyond measures of psychopathology. Moderation analyses revealed that the interaction between identification with psychopathology and belonging to the

community group predicted depression but not for the symptoms/diagnosis nor the clinical group. These findings suggest that the degree to which an individual identifies with psychopathology may have important implications for psychological functioning. Further research is needed to understand these associations across time and the identification dimensions.

Introduction

How might the experience of psychopathology become part of an individual's identity and, in turn, impact their psychological functioning? There is a growing body of work that suggests psychopathology can become a central part of one's identity, which is likely to have negative psychological implications (Klimstra & Denissen, 2017; Verschueren et al., 2020). Consistent with this perspective, research has shown support for psychopathology as a source of identity content (Breen et al., 2013; Marcussen et al., 2021; Verhaeghen et al., 2018; Verschueren et al., 2018; Yanos et al., 2020; Yanos et al., 2010). It has been proposed that centrality, which assesses how central a belief is to one's identity, is an important factor in the relationship between identifying with psychopathology and psychological functioning (Cruwys & Gunaseelan, 2016; Rubin et al., 2014). Despite the theoretical perspectives and existing empirical evidence, little is known about how the centrality of psychopathology content (relative to identity) relates to psychological functioning beyond depression, anxiety, stress and well-being. By examining narrative identity (a process-orientated approach), this study explores *how* identification with psychopathology relates to psychopathology symptoms. This information is required for advancing identity theory and refining clinical approaches.

Illness identity has been defined as "the set of roles and attitudes that people have developed about themselves in relation to their understanding of mental illness" (Yanos et al., 2010, p. 74). Klimstra and Denissen's (2017, p. 1) theoretical framework for understanding

relations between identity and psychopathology posits that identity content exists in a multidimensional space, and it is the *centrality* of the psychopathology content relative to identity that impacts psychological functioning. That is, if an individual is experiencing depression and perceives depression as a central and stable part of who they are, they may be more likely to experience greater symptom severity. Fundamentally, if psychopathology content, such as symptoms or a diagnosis, becomes closely integrated with an individual's identity, the content may begin to define who the individual is, which, in turn, impacts psychological functioning (Klimstra & Denissen, 2017).

There is a growing amount of evidence that supports psychopathology as a source of identity content (Breen et al., 2013; Marcussen et al., 2021; Verhaeghen et al., 2018; Verschueren et al., 2018; Yanos et al., 2020; Yanos et al., 2010). One study considered the themes of identity in online descriptions of non-suicidal self-injury (NSSI) through thematic analysis (Breen et al., 2013). Findings revealed that NSSI may provide individuals with content for self-identification. For example, the theme of identifying as a "self-injurer" emerged from excerpts such as the following: "When I first discovered that I was a Self-Injurer, I slowly began to start thinking of it as a way to define my individuality" (Breen et al., 2013, p. 59). In another study, findings revealed that a mental illness identity, as measured by the degree of agreeableness with self-stigmatising beliefs, was associated with poorer psychological functioning (Marcussen et al., 2021). Even though these studies highlight the associations between psychopathology content (relative to identity) and psychological functioning, they do not capture how central the content is relative to identity.

One prior study recruited n = 250 individuals who were either experiencing current symptoms of depression or had a diagnosis of depression to examine the relationship between the

centrality of psychopathology content (relative to identity) and psychological functioning via a social identification lens (Cruwys & Gunaseelan, 2016). To measure social identification with depression, Cruwys and Gunaseelan (2016) utilised a self-report questionnaire on social identification (Leach et al., 2008). The one item to measure centrality of depression asked participants to rate their agreeableness with the statement: “The fact that I have depression is an important part of my identity”. High scores in centrality were significantly associated with high scores on depression, anxiety, and stress and low scores on life satisfaction. Also, Cruwys and Gunaseelan (2016, p. 39) asked participants an open-ended question: “Is depression part of how you see yourself as a person?” Participants' responses were coded into three groups: 49% were considered to affirm that depression played a role in shaping their identity, 15.4% were considered to reject the inclusion of depression in their identity, and 35.6% were considered to express ambivalence about identifying as a depressed person. The summary of findings suggested that socially identifying as a depressed person can have negative impacts on well-being, potentially by normalising in-group thoughts and behaviour that are characteristic of depression.

Narrative identity theory seeks to explain associations between the centrality of negative life events and post-traumatic stress symptoms (Berntsen & Rubin, 2006; Rubin et al., 2014). The centrality of negative events is measured using the Centrality of Event Scale (CES). This scale includes items such as "I feel that this event has become part of my identity," specifically referring to the individual's "most stressful or traumatic event" in their life (Berntsen & Rubin, 2006, p. 229). Findings from these studies show that when negative life events are more central to a person's identity, as measured by the CES, then they are more likely to experience symptoms of post-traumatic stress disorder (PTSD) (Berntsen & Rubin, 2006; Rubin et al., 2014).

Importantly, while negative and traumatic life events can be emotionally challenging, psychopathology is a clinical term that refers to the manifestation of mental illness, which can be influenced by various factors, including traumatic and negative life events (American Psychiatric Association, 2022) and not everyone who experiences a traumatic or negative life event will develop psychopathology. Collectively, the findings from these studies contribute to our understanding of the role of centrality as an important factor in understanding the relationship between identifying with psychopathology and psychological functioning. Within this framework, Klimstra and Denissen (2017) highlight that there is a need to understand the processes that underpin the relationship between identifying with psychopathology and psychological functioning.

One such way to understand the processes that underpin the relationship between identifying with psychopathology and psychological functioning is through a narrative identity lens. Narrative identity is "an internalized and evolving narrative of the self that incorporates the reconstructed past, perceived present, and anticipated future" to provide a sense of unity and meaning (McAdams, 1996, p. 307). Narrative identity captures the rich and subjective experience of individual differences using a more detailed level of analysis (Adler et al., 2017). As such, if psychopathology content is central to an individual's identity, there is good reason to believe that narrative identity will capture the individual's subjective experience. This perspective is outlined in Luyckz et al.'s (2023) process-oriented and applied perspective of identity formation in adolescence and emerging adulthood (Luyckx et al., 2023). They propose that narrative identity research could increase our understanding of how individuals are impacted by mental illness by putting "flesh on the bones of the illness identity framework" (Luyckx et al., 2023, p. 13). By integrating both process- and content-based approaches, a narrative identity

approach would capture the psychopathology content relative to identity and the process by which psychopathology becomes a central part of identity (Luyckx et al., 2023).

One such measure of narrative identity considered central to understanding an individual's concept of self is a "turning point" narrative (McAdams, 1996, 2008b, 2017; Mitchell et al., 2020). Turning point narratives are "experiences that have changed the individual's life or the kind of person" they are (Mitchell et al., 2020, p. 19). For several reasons, turning point narratives may help assess the centrality of psychopathology content to identity. Firstly, turning point narratives require memory recall and assume that change is important to understanding the self (Adler et al., 2017). Given that stressful or negative life events are usually highly accessible memories that are causal agents in the subsequent thoughts, behaviour and beliefs of an individual (Berntsen & Rubin, 2006), if psychopathology is central to identity, there is good reason to believe an individual will recall a memory related to psychopathology content that has changed their life or who they are. Take, for example, the hypothetical narrative:

"A turning point in my life was when I was diagnosed with depression. It marked a profound turning point in my life because my family dropped everything to be there for me."

Even though depression appears to be a component of this individual's identity, family content may be a more central aspect of this individual's identity.

Moreover, the approach to measuring the centrality of psychopathology content by assessing turning point narratives may be less likely to introduce bias into the response. Given that the framing of questions can influence responses (Schwarz, 1999), it could be suggested that asking a question such as: "The fact that I have depression is an important part of my identity" may contribute to a comparatively biased response versus asking: "Please identify a particular event in your life story that you now see as a turning point". Further, turning point narratives

have demonstrated associations with various psychological outcomes (Author. et al., 2024a; Banks & Salmon, 2018; McAdams et al., 2001; Mitchell et al., 2020; Vanderveren et al., 2021), providing additional support for the utility of turning point narratives in assessing the centrality of psychopathology content. Lastly, turning point narratives do not just capture the centrality of psychopathology content relative to identity but also explores the process of identifying with psychopathology as an aspect of personal identity across time. Turning point narratives capture the subjective and integrative meaning-making process (McAdams, 1996, 2018).

In building upon existing foundational work (Cruwys & Gunaseelan, 2016), we aim to measure the centrality of psychopathology content (relative to identity) beyond depression by considering the centrality of recognised DSM-5 symptoms and/ or diagnoses (American Psychiatric Association, 2022) to an individual's identity. To begin to understand the relationships between identity and psychological functioning, the current study considers symptoms of depression and anxiety, BPD features, rumination and emotion dysregulation as outcome variables. Depression and anxiety are among the most prevalent mental health conditions worldwide, with rising rates in adolescence and emerging adulthood cohorts (Liu et al., 2020; Racine et al., 2021; Twenge et al., 2019). Considering that core features of depression include feeling disconnected from others and experiencing a lack of belonging (Allen & Badcock, 2003), one potential way individuals may incorporate depressive themes into their self-concept is by associating their diagnosis with a sense of belonging to a specific group. A study conducted by Naslund et al. (2014) examined the comments on YouTube videos posted by individuals who self-reported having severe mental illness. The findings revealed that these comments offered support by reducing feelings of isolation and promoting peer interaction and reciprocity. Given that a core feature of anxiety is uncertainty about future events (Gu et al.,

2020), one potential way individuals may incorporate anxious themes into their self-concept is by associating their diagnosis with a sense of continuity. As such, it could be that the individual's depression and/or anxiety diagnosis becomes integrated with their narrative identity (McLean & Syed, 2015).

BPD is also of primary interest to this study, given a core feature of the diagnosis is disturbances in identity (Barlow et al., 2018). One potential way individuals may incorporate BPD themes into their self-concept is by associating their diagnosis with a degree of stability in their self-image or sense of self. BPD is strongly associated with lengthy and/or frequent hospitalisations (Van Kessel et al., 2002), which may further influence an individual's self-image. Consistent with this notion, the focus of crisis management in the in-patient setting for individuals with BPD has been considered a potential inadvertent reinforcer of maladaptive behaviours (Van Kessel et al., 2002). In this framework, hospitalisation and care may impact the individual's self-image because they view themselves as unable to regulate emotions independently. In this way, an individual's BPD diagnosis may become integrated with their sense of self, given that establishing a self-image is a central process to identity development (Rosenberg, 1989).

Due to high comorbidity across psychopathology and the utility of transdiagnostic factors in understanding the development and maintenance of psychopathology (Frank & Davidson, 2014), this study is also interested in associations between identification with psychopathology and rumination and emotion dysregulation. Rumination and emotion dysregulation are associated with many forms of psychopathology, including depression, anxiety and BPD (American Psychiatric Association, 2022; Barlow et al., 2018). Rumination is a cognitive process marked by persistent reflection on negative thoughts and emotions, including their origins and consequences

(Nolen-Hoeksema & Watkins, 2011). In this instance, identification with psychopathology could be associated with rumination because an individual who selects a memory related to psychopathology may recall it in a way that focuses on the negative aspects. For example, rather than seeing 'starting therapy' as a step toward resolving psychopathology symptoms, an individual prone to rumination might view therapy as something that reconfirms their perception of symptom severity. Emotion dysregulation is characterised by difficulties employing adaptive strategies to regulate emotions (Cox & McAdams, 2014). In this instance, identification with psychopathology could be associated with emotion dysregulation because an individual may engage in emotional avoidance strategies when asked to recall a turning point memory (Oppenheim & Waters, 1995). In this instance, an individual may select a memory that will not elicit emotional reactivity (i.e., a memory that will not upset them). As a result, they cannot reconcile negative experiences related to psychopathology again, leading to persisting views of self over time.

The Present Study

The theoretical and empirical work discussed prompt several important questions: How do individuals experiencing psychopathology perceive this as central to their identity compared to other aspects of identity? Does the centrality of psychopathology vary among individuals with similar symptoms but different life roles and identities? How does the centrality of psychopathology relate to coping strategies, self-esteem, and hope among individuals experiencing psychopathology? While answering all these questions is beyond the scope of this research, a critical first step in investigating this area is designing a robust approach to measuring the centrality of identification with psychopathology and understanding how this relates to psychopathology.

Our study aimed to investigate the centrality of psychopathology content relative to identity (hereafter referred to as identification with psychopathology) in turning point narratives among a community *n* = 245 and clinical sample *n* = 30 of young adults (aged 18 – 39 years) by utilising a novel coding scheme. We examined how this degree of identification with psychopathology related to psychopathology symptoms, specifically examining symptoms of depression and anxiety, features of BPD, rumination, and emotion dysregulation. Furthermore, we examined the utility of identification with psychopathology in predicting an individual's mental health group (those without symptoms or diagnosis in the community, hereafter referred to as the "community group," those in the community with symptoms or a diagnosis, hereafter referred to as "symptoms or diagnosis group", and those in the "clinical group").

The primary theoretical question shaping the research aims to understand how the degree of identification with psychopathology is related to psychopathology. Given that existing research and theoretical perspectives have proposed a reciprocal relationship between psychopathology and narrative identity (Adler et al., 2015; Author. et al., 2024a; Klimstra & Denissen, 2017; Mitchell et al., 2020; Sajjadi et al., 2021; Vanaken, Bijttebier, et al., 2021; Verschueren et al., 2018), we expected that identification with psychopathology in turning point narratives would be positively related to increased psychopathology symptoms (depression, anxiety, BPD features, rumination, and emotion dysregulation). We also expected identification with psychopathology to uniquely predict mental health group (community group, symptoms or diagnosis group, versus clinical group), above and beyond measures of psychopathology symptoms.

In addition, considering both theoretical and empirical support for associations between psychopathology content and identity, along with empirical support for greater symptom severity

in clinical populations (Nathan et al., 2021), we hypothesised that the connection between identifying with psychopathology and the presence of psychopathology symptoms would be influenced by the mental health status of individuals within the three distinct groups. For example, it may be that identifying with psychopathology is more strongly related to psychopathology symptoms for those in the clinical group. Given the lack of prior research or theory in this area, we have no specific hypotheses about the strength and direction of the moderating effects. Considering that 'change' is a core assumption of turning point narratives (Adler et al., 2017), an exploration of causal coherence (the degree to which the turning point event is narrated as significant in changing personality or self-concept) (Mitchell et al., 2020) as a potential covariate was also warranted.

Method

Participants

Participants were n = 275 young adults (ages 18-39 years). Recruitment for the study was conducted from both community (n = 245) and clinical (n = 30) settings. Prior work indicates that a typical effect size of 0.13 is commonly observed in narrative identity studies (Author. et al., 2023b). As such, to determine the necessary sample size for replicating the findings from existing literature, an a-priori power analysis was conducted using G*Power version 3.1.9.4 (Faul et al., 2007) for multiple regression analysis with exp(β1) f2 = 0.13, α = 0.05, and a desired power of 0.80, it was determined that a minimum sample size of > 63 participants would be required. Similarly, for moderation analyses (with f2 = 0.13; α = 0.05) and power equalling 0.80, it was determined that a minimal sample size of > 63 participants would be required.

The mean age of participants was 20.37 ± 3.39 years and n = 215; 78.18% were female. The majority of participants identified as New Zealand European (n = 173, 62.9%), Māori (n =

51, 18.5%), Pacific Islander (*n* = 11, 4%), Asian (*n* = 24, 8.7%), and Other (*n* = 16, 5.8%). Participants from the community setting (*n* = 74, 30%) self-reported having a mental illness diagnosis. Of these, diagnoses included comorbid anxiety and depression (*n* = 23, 32%), anxiety (*n* = 11, 15%), depression (*n* = 6, 8%), and comorbid PTSD and depression (*n* = 4, 5%). Additionally, participants from the community setting (*n* = 51, 21%) also self-reported experiencing symptoms of mental illness which included anxiety (*n* = 26, 51%), comorbid anxiety and depression (*n* = 12, 24%), comorbid ADHD and depression (*n* = 2, 4%), comorbid PTSD, anxiety, and depression (*n* = 2, 4%), and depression (*n* = 2, 4%). Across participants from the clinical setting, the most common self-reported diagnoses were schizophrenia (*n* = 7, 23%), depression (*n* = 7, 23%), anxiety (*n* = 6, 20%) and PTSD (*n* = 5, 17%). Sample demographics for each mental health group are shown in Table 9. Findings revealed significant differences in age and gender, but not ethnicity, across mental health groups.

Table 9

Preliminary Analyses: One-Way ANOVA and Chi-Square Values for Sample Demographics Based on Mental Health Groups

	Community *n* = 121	Community with symptoms or diagnosis *n* = 124	Clinical group *n* = 30	Value	*p*
Age	19.62 (1.96)	19.69 (2.24)	26.2 (5.61)	$F = 124.372$	<.001
Gender	*n* = 97, 80.17% female	*n* = 98, 79.03% female	*n* = 20, 66.67% female	$\chi^2 = 22.214$	<.001
Ethnicity				$\chi^2 = 5.844$	.665
New Zealand European	*n* = 76, 62.81%	*n* = 86, 69.35%	*n* = 11, 36.67%		
Māori	*n* = 19, 15.7%	*n* = 19, 15.32%	*n* = 13, 43.33%		
Pacific Islander	*n* = 5, 4.13%	*n* = 5, 4.03%	*n* = 1, 3.33%		
Asian	*n* = 15, 12.4%	*n* = 8, 6.45%	*n* = 1, 3.33%		
Other	*n* = 6, 4.96%	*n* = 6, 4.84%	*n* = 4, 13.33%		

Note. *n* = sample size; *p* = significance level (two-tailed)

It is important to recognise that mental illness symptoms and diagnoses may be more prevalent among young adults in this community sample than in the general population. This finding aligns

with previous research indicating that undergraduate students in the humanities, as opposed to those in other disciplines, exhibit higher rates of depression and anxiety, report thoughts of suicide, engage in non-suicidal self-injury, and meet the criteria for at least one mental health problem (Lipson et al., 2016).

Measures

Turning Point Narrative Task. Narrative identity was measured using an abbreviated version of McAdams et al.'s (2006) life story interview. The abbreviated version asks participants to share a "turning point" from their life stories. Previous research has demonstrated the validity of this abbreviated version as a measure of narrative identity, as evidenced by its strong associations with psychological well-being (Reese et al., 2017; Salmon et al., 2021; Tavernier & Willoughby, 2012). Participants were asked to write a turning point from their life stories in the community setting. In the clinical setting, participant narratives were audio recorded and transcribed verbatim, initially utilising Otter software (see https://www.otter.ai) and later verified by the first author.

Turning Point Narrative Coding for Identification with Psychopathology. Employing a grounded theory methodology (Charmaz, 2008), the identification with psychopathology scale was developed based on both theoretical considerations and a subset of narratives (n = 55). The first and third authors refined and specified each dimension by assigning values along a 4-point scale ranging from low to high (Table 10). The identification with psychopathology scale was designed to tap how central psychopathology content is to the self-concept or personality of an individual. After developing the scale, a different subset of turning point narratives was used to determine reliability. The first and third authors completed reliability coding for identification with psychopathology. The two coders independently coded 25% (n = 49 from the community

sample and n = 20 from the clinical sample) of the turning point narratives for reliability (discrepancies were reconciled through consensus). The remaining turning point narratives were coded by the first author. Inter-rater reliability was evaluated using an intra-class correlation (ICC) two-way random-effect model based on single measures and absolute agreement, yielding an ICC of 0.88. This level of agreement is consistent with other narrative coding frameworks (Adler et al., 2012; Mitchell et al., 2020; Salmon et al., 2021).

Table 10

Identification with Psychopathology Coding Framework

Code	Description	Example
0	There is no reference to psychopathology or symptoms. The narrative may mention a negative emotional state, but it is clear that this was fleeting and did not cause significant impairment in functioning at the time. However, the negative emotional state appears historical, or at least no mention of ongoing negative emotional or mental health consequences.	"Just finished my last assignment, I realized that, sure, I had received good marks for my studies that year, but I had also not taken advantage of any opportunity…I was feeling guilty… realized that I have the opportunity to do better this year. I think this experience tells me that I was more immature but scared back then, whereas now, it is the complete opposite."
1	There is a reference to psychopathology or symptoms, or the narrative may mention ongoing distress associated with grief/ loss/ trauma. The narrative may indicate that in the past. The experience impacted personality and/ or functioning. However, it is clear that while there may be enduring symptoms, there is no enduring impact on personality and/or functioning.	"When I started, I was feeling very lost, depressed and was self-harming a lot… Since working with her…, I felt comfortable not having to pretend things were okay, felt safe and learned how to speak up for myself….I started this 'changing point' journey when I was 22, and still on it…now I have better connections with people, live a more balanced life, health has improved, can speak up for myself and doing better physically and mentally."
2	There is a reference to psychopathology or symptoms. It is clear that psychopathology or symptoms have a current impact on personality and/ or functioning. However, the narrative indicates that the impact on personality and/or functioning may not be enduring. For example, future personality and/ or functioning is described where there is the anticipation of "getting better" or a "journey of recovery" is implied.	"Talking to her, I was able to understand myself and feel validated in my feelings…experience impacted me in a way that allowed me to accept the symptoms of mental health I have been experiencing…It says a lot about who I was… everything in the dark and struggling alone…although I'm not fully there, I'm on the right path." "When I was finally diagnosed with my ED [eating disorder] …I knew that something was "wrong" with me and that I wasn't okay…it was just the moment that I knew that I could get help and I could get better. I think it just showed me that I am not crazy or just going through what teens go through….it has given me my life and my friends and my family. I have the chance to think about my future and have a future."
3	There is a reference to psychopathology or symptoms. It is clear that psychopathology or symptoms have a current impact on personality and/ or functioning. The narrative indicates that the impact on personality and/ or functioning is likely to be enduring. For example, there is no detail on how the impact could be overcome, or the narrative might indicate that the psychopathology or symptoms are part of "who they are." The narrative might use possessive pronouns, i.e., "my" and "mine", in reference to a diagnosis.	"I considered myself fairly normal up until this point…. I spent the next 3 years zoned out and so stuck in my own head….. It also gives reason as to why I am so childish as an adult. " "…it seems like I have ADHD, so I looked more into it…I thought I might have found an explanation for why I am like I am…I see everything I've done and everything I do through a different lens…That I'm getting somewhere on figuring out who I am…Now I have more of an idea of what makes me different and that it's not a bad thing, and I'm not alone in it."

Turning Point Coding for Causal Coherence. The causal coherence of the turning point narratives was assessed using a 4-point scale based on the work of Habermas et al. (2008) and in line with prior research (Chen et al., 2012; Reese et al., 2014). This scale aims to measure the degree to which the turning point event has affected changes in the participants' self-concept or personality. We calculated an intra-class correlation (ICC) using a two-way random effect model with single measurements and complete agreement to assess the consistency among coders. The first and third authors carried out reliability checks. To establish agreement, the coders independently assessed coded 25% (n = 49 from the community sample and n = 20 from the clinical sample) of the turning point narratives, resolving any differences through discussion. Subsequently, the first author coded the remaining turning point narratives. The computed ICC for assessing causal coherence was 0.77, which aligns with findings from previous studies (ICC = 0.70; Mitchell et al., 2020).

Depression and Anxiety. The Depression Anxiety Stress Scales (DASS-21; (Lovibond & Lovibond, 1995)) is a self-report scale comprising 21 items. Its purpose is to assess the extent to which individuals experience negative emotional states, specifically depression, anxiety, and stress. Participants are asked to rate the severity or frequency of each state they have experienced in the past week using a 4-point scale. Scores for depression, anxiety, and stress are computed by summing the scores of the relevant items. The DASS-21 has demonstrated excellent validity and reliability, with Cronbach's α coefficients of 0.81 and 0.89 for the depressive and anxiety subscales, respectively (Coker et al., 2018). In the current sample, the internal consistencies were also high, with Cronbach's α coefficients of 0.92 and 0.85 for the depression and anxiety subscales, respectively.

Borderline Personality Disorder Features. The Personality Assessment Inventory-Borderline Scale (PAI-BOR) is a self-report scale consisting of 24 items developed by Morey (1991). This scale is designed to assess the fundamental characteristics of BPD and includes four subscales: affective instability, identity problems, negative relationships, and self-harm. Participants are required to rate the degree of truthfulness for each statement using a 4-point scale. The scores from the items are combined to generate a total PAI-BOR score and scores for each subscale. Previous research has demonstrated that the PAI-BOR and its subscales exhibit good validity and reliability, with a Cronbach's α of 0.80 (Murphy, 2020). In the current sample, the internal consistency was also high, with a Cronbach's α of 0.88.

Rumination. The Ruminative Response Scale (RRS) is a self-report measure comprising 22 items, developed by Treynor et al. (2003). This scale aims to evaluate the degree to which individuals engage in negative, repetitive thinking and behaviour in response to distressing emotions. Participants are asked to assess the degree to which they engage in behaviour or thoughts associated with distress using a 4-point rating scale. The scores from each item are combined to calculate a total RRS score. Numerous studies have demonstrated that the RRS exhibits strong reliability and validity in assessing rumination among community and clinical samples (Parola et al., 2017; Roelofs et al., 2006), with an excellent level of internal consistency (Cronbach's $\alpha = 0.92$). In the current sample, the internal consistency was also excellent, with a Cronbach's α of 0.91.

Emotion Dysregulation. The Difficulties in Emotional Regulation Scale (DERS; (Gratz & Roemer, 2004)) is a self-report measure of 36 items. Its purpose is to assess the degree to which individuals encounter difficulties regulating their emotions across six specific areas: non-acceptance, goals, impulse, awareness, strategies and clarity. Participants are asked about their

emotional arousal, mindfulness, comprehension, acceptance of emotions, and capacity to engage in goal-oriented behaviour regardless of their emotional state, using a 5-point rating scale. The scores from each item are combined to produce an overall DERS score and scores for each subscale. The DERS has exhibited favourable test-retest reliability and acceptable validity, according to Gratz and Roemer (2004). Internal consistencies for the current sample were Cronbach's $\alpha = 0.93$, comparable to other studies that have used this measure (Charak et al. (2019); Cronbach's α of 0.95).

Mental Health Group. Community participants were asked whether they had a formal diagnosis of a mental illness. If they answered yes, they were further prompted to specify the particular diagnosis they had received. Alternatively, if participants responded no to having a diagnosis, they were asked if they experienced symptoms associated with mental illness. Participants' mental health status within the community sample relied on their self-reported information. Those who indicated the absence of both mental illness symptoms and a formal diagnosis were categorised as "community." Individuals who reported experiencing mental illness symptoms or a diagnosis were categorised as "community with symptoms or diagnosis". In contrast, within the clinical setting, all participants were uniformly categorised as "clinical group," acknowledging their presence in an in-patient mental health setting.

Procedure

Two different approaches were used to recruit from the community and clinical settings. In the community setting, $n = 245$ undergraduate psychology students received course credit for participation in the online survey. Participants were asked to provide informed consent and answer a basic demographic questionnaire. Participants were then requested to participate in a ≈60-minute online survey through the Qualtrics platform (https://www.qualtrics.com/). The

measures were administered in the following order: turning point narrative task, DASS, PAI-BOR, RRS and DERS (in the context of a larger study, measures that are not relevant to the specific focus of this study are not included in this description). Participants were then provided with a debriefing form that explained the research benefits and included contact information for support services in case of any research-related distress.

The clinical sample included $n = 30$ participants recruited from an in-patient public mental health facility. Staff distributed recruitment materials to clients with no current psychotic features, and interested participants were self-selecting. The study was advertised as research regarding "life stories and mental illness." Due to the vulnerability of hospitalised clients, possible comorbid substance use and socio-economic marginalisation, the capacity to consent is a primary ethical consideration when conducting research in the in-patient setting (Dunn & Jeste, 2001). Similar to the approach of Gibbs et al. (2005), a registered nurse conducted a mental health status examination to ensure participants had the capacity to consent. The participants were also administered the 3Q to determine if there were gaps in the client's understanding of three aspects of the research: purpose, risks, and potential benefits (Palmer et al., 2005). The 3Q is a screening tool validated in the in-patient setting to increase researchers' confidence that participants have the capacity to consent (Hickman et al., 2011). Cultural considerations are of specific relevance to this study because there is a disproportionate ratio of Māori to non-Māori under the Mental Health Compulsory Treatment Order Act. In this context, the facilities kaitakawaenga team could be involved in the consent, data collection, and debriefing process should the participant choose. Of the initial $n = 34$ clients who expressed an interest in participating, all participants were considered to have the capacity to consent; however, $n = 4$ withdrew from the session due to their perception of the session's lengthy duration.

After providing informed consent and completing a basic demographics questionnaire, participants were asked to share a turning point from their life story. Participants were then requested to participate in a ≈50-minute online survey through the Qualtrics platform (https://www.qualtrics.com/). The measures were administered in the following order: DASS, PAI-BOR, RRS and DERS (in the context of a larger study, measures that are not relevant to the specific focus of this study are not included in this description). Subsequently, participants were offered a debrief session to address any issues that may have arisen for them. As part of this debrief, participants were asked whether they would like to connect with staff at the in-patient service to discuss anything that came up during the interview. Because participants were in-patient during the interviews, staff were informed about the study, the interview questions, and any anticipated distress to inform the monitoring of participants following the session. Participants were also asked if they would like to participate in a grounding exercise, given the empirical support for grounding exercises in reducing feelings of anxiousness and arousal (Najavits, 2002).

The relevant University Human Research Ethics Committee approved this research. The local health service, where the in-patient service was located, approved the clinical setting research, and the Te Puna Oranga Māori Research Review Committee endorsed it.

Data analyses

All analyses were conducted on SPSS Version 29.0 (IBM Corp, 2020). For scales with missing responses on 1-2 items, the scores were determined by calculating the average scores across the related subscales (Huisman, 2000). The total number of missing data points were: 7 for PAI-BOR and 4 for RRS. Descriptive statistics were calculated. Preliminary analyses (comparing means for continual DV and ordinal IVs) were conducted using one-way ANOVA.

Post-hoc comparisons of mental health group means on the Identification with Psychopathology Scale were conducted to determine groups. Post-hoc comparisons revealed significant distinctions between all groups except for the community symptoms and community diagnosis groups. As such, we organised participants into three mental health groups for the multinomial regression and moderation analyses: community group, symptoms or diagnosis group, and clinical group. Preliminary associations between identification with psychopathology in turning point narratives and psychopathology symptoms were tested using Spearman's rho correlations. To explore this relationship further, regression analyses examined the psychopathology variables (while controlling for Ethnicity and Age) in predicting Identification with Psychopathology (Bootstrapped on 2,000 samples). Multinomial regression analysis examined whether identification with psychopathology would uniquely predict mental health group (community, symptoms or diagnosis, and clinical group), above and beyond measures of psychopathology symptoms. Finally, multi-categorical moderation analyses within PROCESS (Model 1) were conducted to examine interaction effects (Hayes, 2018). Covariates identified as significant in preliminary analyses were included in moderation models.

Results

Preliminary analysis

Descriptives are shown in Table 11, and potential covariates are shown in Table 12. Table 12 shows one-way ANOVA values used to determine differences in identification with psychopathology, causal coherence and psychopathology measures based on gender, ethnicity and mental health group. While no differences in functioning were found to be related to gender, differences in BPD symptoms were related to an individual's ethnicity ($F = 7.786$, $p < .001$). An individual's mental health group (community, symptoms or diagnosis, and clinical group) was

also related to identification with psychopathology (F = 16.642, p = < .001), causal coherence (F = 3.550, p = .015), depression (F = 9.955, p = < .001), anxiety (F = 20.095, p <.001), BPD (F = 7.643, p = <. 001), rumination (F = 10.268, p = < .001) and emotion dysregulation (F = 5.972, p = .003). Spearman's correlations also revealed that age was related to identification with psychopathology (rs = .165, p < 0.01), anxiety (rs = -.137 p = < 0.05), BPD (rs = .213, p = < 0.01), and emotion dysregulation (rs = .119, p < 0.05).

Table 11

Means and Standard Deviations for Study Variables

Variable	Mean (SD)
Identification with Psychopathology	.97 (1.10)
Causal Coherence	1.58 (.93)
Depression	16.92 (0.08)
Anxiety	16.41 (10.08)
BPD	36.39 (8.95)
Rumination	55.52 (14.17)
Emotion dysregulation	101.20 (25.71)

Table 12

One-Way ANOVA Comparing Group Differences in Mean Scores on Identification with Psychopathology and Symptoms of Psychopathology. Group mean (x).

Variable	Identification with Psychopathology	Causal Coherence	Depression	Anxiety	BPD	DERS	RRS
Gender	*F* = 1.03, *p* = .357	*F=.567, p = .568*	*F* = .706, *p* = .495	*F* = .538, *p* = .585	*F* = .213, *p* = .809	*F* =1.03, *p* = .357	*F* = .549, *p* = .578
Male	*x* = .87	*x* = 1.46	*x* = 18.37	*x* = 15.31	*x* = 37.54	*x* = 97.48	*x* = 56.16
Female	*x* = .97	*x* = 1.61	*x* = 16.58	*x* = 16.62	*x* = 36.11	*x* = 101.96	*x* = 55.26
Non-binary	*x* = 1.60	*x* = 1.60	*x* = 18.00	*x* = 18.00	*x* = 36.20	*x* = 111.20	*x* = 61.60
Ethnicity	*F* = 1.104, *p* = .355	*F=.457, p = .767*	*F* = .668, *p* = .615	*F* = .888, *p* = .472	*F* = 7.786, ***p* < .001**	*F* = .392, *p* = .814	*F* = 1.600, *p* = .175
NZ European	*x* = .97	*x* = 1.61	*x* = 16.33	*x* = 16.51	***x* = 33.58**	*x* = 100.25	*x* = 54.21
Māori	*x* = 1.16	*x* = 1.53	*x* = 18.67	*x* = 17	***x* = 45.39**	*x* = 104.90	*x* = 59.71
Pacific	*x* = .64	*x* = 1.73	*x* = 17.27	*x* = 18.55	*x* = 34.55	*x* = 102.82	*x* = 53.36
Asian	*x* = .67	*x* = 1.38	*x* = 16.21	*x* = 13.42	***x* = 35.79**	*x* = 101.67	*x* = 56.17
Other	*x* = 1.06	*x* = 1.63	*x* = 18.56	*x* = 16.44	*x* = 40.25	*x* = 98.13	*x* = 56.75
Mental health group	*F* = 1.91 ***p* < .001**	*F=3.550, **p = .015***	*F* = 3.96 *p* = .009	*F* = 7.107 *p* < .001	*F* = 134.33 *p* = <.09	*F* = 22.62 *p* = <.001	*F* = 5.085 *p* = .002
Community	***x* = .57**	*x* = 1.67	*x* = 14.60	*x* = 13.80	*x* = 31.25	*x* = 94.54	*x* = 50.07
Symptoms	*x* = 1.10	*x* = 1.38	*x* = 18.68	*x* = 19.72	*x* = 33.45	*x* = 105.76	*x* = 55.36
Diagnosis	*x* = 1.19	*x* = 1.73	*x* = 18.86	*x* = 18.08	*x* = 34.08	*x* = 107.03	*x* = 58.43
Clinical	**x = 1.80**	***x* = 1.20**	*x* = 18.57	*x* = 17.27	*x* = 67.70	*x* = 106.13	*x* = 70.57

As shown in Table 13, the post-hoc analysis of mean differences in causal coherence among the mental health groups reveals a significant distinction between the community and clinical groups. Specifically, the mean causal coherence scores, detailed in Table 12, indicate that the community group had higher scores (*x* = 1.67) than the clinical group (*x* = 1.20).

Table 13

Post-hoc Comparisons of Mental Health Group Means on Causal Coherence (Given Group Differences in Identification with Psychopathology as shown in Table 12). Mean differences (x).

Mental Health Group	Mental Health Group	*x* (SE)	*p*	CI's 95%
Community	Symptoms or diagnosis	.08071(.11791)	.773	[-.1972, .3586]
	Clinical	.46492 (.18820)	**.035**	[.0259, .9129]
Symptoms or diagnosis	Community	-.08071 (.11791)	.773	[-.3586, .1972]
	Clinical	.38871 (.18775)	.098	[-.0537, .8312]
Clinical	Community	-.46942 (.18820)	**.035**	[-.9129, -.0259]
	Symptoms or diagnosis	-.3871(.18775)	.098	[-.8312, .0537]

Hypothesis 1

As shown in Table 14, Spearman's correlations examined the first hypothesis that identification with psychopathology in turning point narratives would be positively related to increased psychopathology symptoms (depression, anxiety, BPD features, rumination, and emotion dysregulation). Consistent with this hypothesis, greater identification with psychopathology was positively correlated with symptoms of depression (r_s = .163, p < 0.01), anxiety (r_s = -.257, p < 0.01), BPD features (r_s = .265, p < 0.01), rumination (r_s = .248, p < 0.01) and emotion dysregulation (r_s = .156, p < 0.01). As expected, all measures of psychopathology were positively related.

Table 14

Spearman's Correlation Analysis among Identification with Psychopathology, Psychopathology Symptoms (Depression, Anxiety, BPD, Rumination, Emotion Dysregulation), Ethnicity and Age (95% Bias Corrected and Accelerated Intervals, Based on 2,000 Bootstrap Samples).

	1.	2.	3.	4.	5.	6.
1. IwP						
2. Ethnicity	-.002					
3. Depression	.163**	.067				
4. Anxiety	.257**	-.008	.565**			
5. BPD	.265**	.228**	.456**	.450**		
6. Rumination	.248**	.113	.651**	.546**	.675**	
7. Emotion Dysregulation	.156**	.039	.637**	.573**	.490**	.623**

Note. *p<0.05; **p<0.01

To further examine hypothesis 1, we used regression analysis to examine which of the multiple measures of psychopathology (depression, anxiety, BPD features, rumination, and emotion dysregulation) was a unique predictor(s) of identification with psychopathology in turning point narratives while controlling for potential covariates (age and ethnicity) (Table 15). The overall model was significant (F(7, 267) = 7.473, p < .001, R^2 .164). All VIF scores were less than 2.93,

indicating no multicollinearity concerns (Shrestha, 2020). The Durbin Watson was 2.170, indicating no first-order autocorrelation (Kutner et al., 2005). We found that higher anxiety (B = .031, t(3.281) and higher BPD symptoms (B = .016, t(2.290) significantly predicted higher identification with psychopathology but not depression, rumination or emotion dysregulation (Table 15).

Table 15

Regression of Psychopathology Variables (while controlling for Ethnicity and Age) in Predicting Identification with Psychopathology (Bootstrapped on 1000 samples).

	B (SE)	t	*p*	95% CI's
Ethnicity	-.027 (.168)	-.161	.872	[-.357, .303]
Age	.039 (.023)	1.705	.089	[-.006, .084]
Depression	-.004 (.009)	-.444	.658	[-.021, .013]
Anxiety	.031 (.009)	3.281	**.001**	[.012, .049]
BPD	.016 (.007)	2.290	**.023**	[.002, .029]
Rumination	.002 (.007)	.307	.759	[-.012, .017]
Emotion Dysregulation	-.001 (.004)	-.374	.708	[-.009, .006]

Hypothesis 2

As shown in Table 16, multinomial regression analysis examined the second hypothesis that identification with psychopathology would uniquely predict mental health group (community, symptoms or diagnosis, or clinical), above and beyond measures of psychopathology symptoms. Partially consistent with this hypothesis, identification with psychopathology predicted an individual's mental health status for the symptoms or diagnosis group, above and beyond measures of psychopathology. We found that for each one-unit increase in identification with psychopathology, the likelihood of an individual falling into the symptoms or diagnosis group (versus community group) is predicted to increase by .488 units. Identification with psychopathology did not predict an individual belonging to the clinical mental health group.

Table 16

Multinomial Regression to Determine Which Independent Variables Significantly Predict Belonging to Mental Health Groups

		B	SE	Wald Chi-square	*p*	Exp(B)	95% CIs
Symptoms or diagnosis	IwP	.488	.143	11.584	**<.001**	1.629	[1.230, 2.157]
	Depression	-.003	.019	.025	.874	.997	[.961, 1.035]
	Anxiety	.029	.021	1.975	.160	1.029	[.989, 1.072]
	BPD	-.029	.021	1.891	.169	.972	[.933, 1.012]
	Rumination	.032	.017	3.634	.057	1.033	[.999, 1.067]
	Emotion Dysregulation	.007	.008	.725	.395	1.007	[.991, 1.024]
Clinical	Intercept	-250.561	.000	.	.		
	IwP	-17.800	12950.416	.000	.999	1.860E-8	[.000, b].
	Depression	-1.432	6314.102	.000	1.000	.239	[.000, b].
	Anxiety	-.562	4376.468	.000	1.000	.570	[.000, b].
	BPD	5.651	2272.744	.000	.998	284.558	[.000, b].
	Rumination	.628	2261.782	.000	1.000	1.874	[.000, b].
	Emotion Dysregulation	-.319	1804.258	.000	1.000	.727	[.000, b].

a. The reference category is community.
b. Floating point overflow occurred while computing this statistic. Its value is therefore set to system missing.
c. The ExpB is referred to as an odds ratio.

Hypothesis 3

As shown in Table 17, moderation analyses examined our final hypothesis that the relationship between identification with psychopathology and psychopathology symptoms would be moderated by the mental health status among individuals in the three groups (community, symptoms or diagnosis, or clinical). Of the five models, one of the models (Model 1) revealed a significant interaction: Higher identification with psychopathology was significantly associated with higher depression symptoms within the community group, but not for the symptoms/diagnosis nor the clinical group (Table 17). Conditional effects were tested at specific values of the moderator, and only significant findings were reported (Table 18). Models with no statistically significant conditional effects were omitted from the SPSS outcome. A visual representation of this interaction is provided in Figure 8. The majority (four out of five) of the

models indicated that the associations between identification with psychopathology and psychopathology symptoms remained consistent across different mental health groups.

Table 17

Overall Model Results for Moderated Regression Analyses

	$R^2\Delta$	F	*p*
Model 1: Depression x IwP and Mental health group (covariates: age)	.0293	4.3278	**.0141**
Model 2: Anxiety x IwP and Mental health group (covariates: age)	.0158	2.5401	.0808
Model 3: BPD x IwP and Mental health group (covariates: age, ethnicity)	.0032	1.1576	.3158
Model 4: Rumination x IwP and Mental health group (covariates: age)	.0056	.9769	.3778
Model 5: Emotion dysregulation x IwP and Mental health group (covariates: age)	.0133	2.0108	.1359

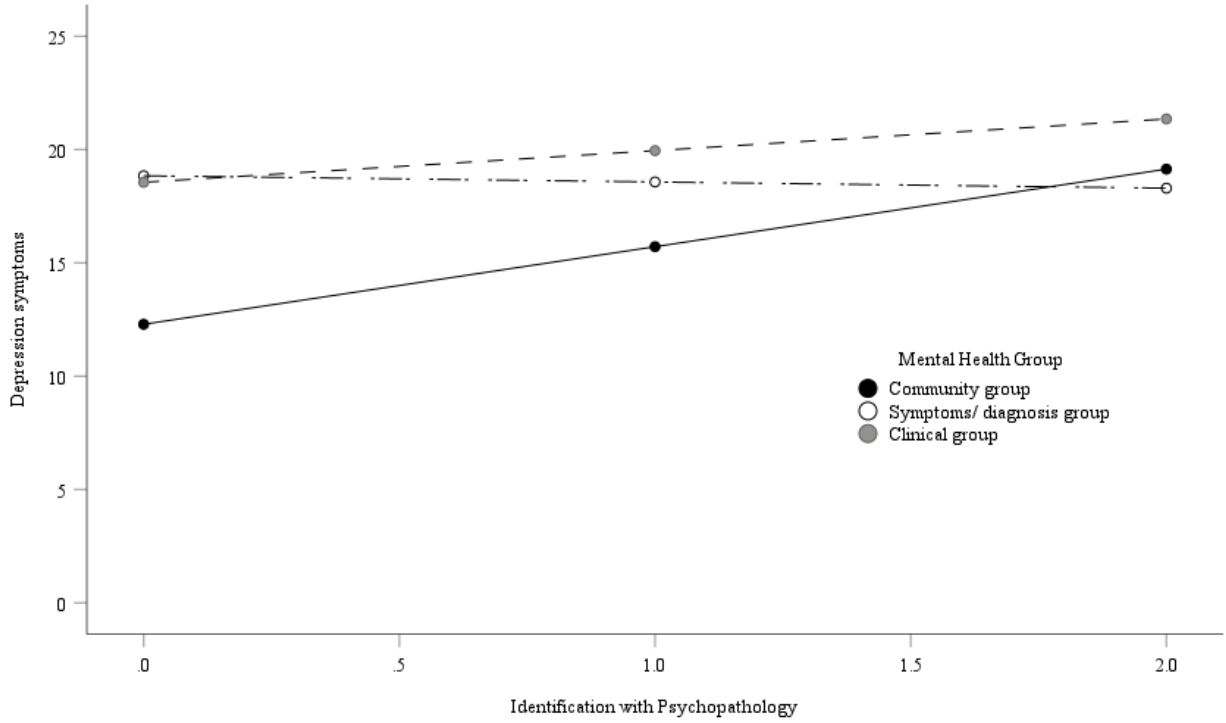
Table 18

Moderated Regression Analysis Results with Identification with Psychopathology (Predictor), Mental Health Group (Moderator), and Psychopathology Symptoms (Outcomes).

	B	*SE*	t	95% CIs
Model 1 Depression				
Community	3.42	.9824	3.4850	**[1.4895, 5.3579]**
Community symptoms or diagnosis	-.2739	.7870	-.3480	[-1.8234, 1.2756]
Clinical group	1.3973	1.5599	.8958	[-1.6738, 4.4685]

Figure 8

Model 1 Interaction between Mental Health Group, Identification with Psychopathology and Depression Symptoms



Discussion

In a cohort of young adults *n* = 275 (ages 18-39 years), recruited from both community (*n* = 245) and clinical (*n* = 30) settings, the current study examined the relationship between identification with psychopathology in turning point narratives and psychopathology symptoms. We found support for our hypothesis that identification with psychopathology in turning point narratives would be positively related to greater psychopathology symptoms (depression, anxiety, BPD features, rumination, and emotion dysregulation). Regression analyses also identified that anxiety and BPD features, but not depression, rumination, or emotion dysregulation, significantly predicted higher identification with psychopathology in turning point narratives. Consistent with previous research (Cruwys & Gunaseelan, 2016; Verschueren et al.,

2018), our findings suggest that themes of psychopathology can be integrated into an individual's identity and that this may have associations with mental health. It is important to note that this study's cross-sectional design does not allow us to establish causality, and the relationship between psychopathology and identity may be bidirectional.

On inspection of the data, identification with psychopathology in turning point narratives appeared to reveal a complex relationship with psychopathology rather than a simple positive association. While some individuals may strongly identify with psychopathology in their narratives and have a mental illness diagnosis, they may not necessarily exhibit high current levels of psychopathology symptoms. Take, for example, the excerpt below. In this instance, the narrative scored highly in identification with psychopathology because the individual clearly articulates how their eating disorder is integral to enduring changes in their self-concept or personality. However, the individual also scored low on all current measures of psychopathology symptoms.

> *"When I was finally diagnosed with my eating disorder… I was super nervous to be there because I knew that something was "wrong" with me and that I wasn't okay, but it had been two years at its worst, and no one was ever listening to me. At the end of this session, when [she] told me that I was bulimic, it was such a massive weight that was lifted. It sounds weird to put it like that because it's not a fun thing to have, but I had been struggling for so long, and I was finally listened to and told what was going on with me. It was just the moment that I knew that I could get help and I can get better. I think it just showed me that I am not crazy or just going through what teens go through. I felt listened to, and I also had the opportunity to now learn about myself and why I do the things that I do. I have the chance to think about my future and have a future."*

The measurement profile for this individual highlights the complexity of relying on a diagnostic status to capture the individual's unique experience of psychopathology. In this instance, a diagnosis does not fully capture the nuances of the individual's experience: an individual's narrative identity might reflect a deep connection to their past struggles, even if they are currently coping well and not exhibiting prominent symptoms. As such, it is important to acknowledge that the process of psychopathology content becoming a central part of identity may have both adaptive and maladaptive functions for psychological well-being. For example, on the one hand, receiving a diagnosis may provide an individual with a sense of continuity in explaining their thoughts and behaviour, which is central to identity formation (Klimstra & Denissen, 2017). On the other hand, a diagnosis may lead an individual to experience their mental health as unchangeable because it is ‘who they are,’ which may prevent them from exploring other aspects of identity (Klimstra & Denissen, 2017).

To highlight the potential adaptive functions of identifying with psychopathology for psychological functioning, Verschueren et al. (2018) explored the adaptive aspects of eating disorder symptomatology in the context of identity formation. Their findings suggest a connection between a drive for thinness and goal pursuit, proposing that focusing on the body may provide clarity and empowerment. Yeshua-Katz (2015) highlight the potential maladaptive functions of identifying with psychopathology. They examined pro-anorexia web communities and interviews with pro-anorexia bloggers, and findings revealed a focus on the importance of differentiating between individuals with genuine eating disorders and those who pretend to have anorexia, referred to as "wannarexics" (Yeshua-Katz, 2015). Since wannarexics are typically excluded from these online communities, a concern is that this exclusion may unintentionally encourage anorexic behaviours. In fact, one individual shared her fear of being labelled as a

wannarexic or an attention seeker if she didn't lose weight like she said she would in her posts or if her posts discussed her weight or food intake, that readers would perceive these as too high. These findings suggest that such norms and rules could normalise maladaptive behaviour and reinforce maladaptive identity content.

The physical illness identity literature may help to inform this approach. For example, findings suggest that individuals with type 1 diabetes may view their illness (relative to identity) as either engulfment, rejection, acceptance, or enrichment (Oris et al., 2016). Rejection refers to viewing diabetes as a threat or as unacceptable to the self and is associated with poorer treatment adherence and greater symptom severity. Engulfment refers to viewing diabetes as dominating all domains of a person's identity and is associated with less adaptive psychological functioning and more diabetes-related problems. Acceptance of diabetes is associated with more adaptive psychological functioning, fewer diabetes-related problems, and better treatment adherence. Lastly, enrichment refers to the perception of diabetes positively contributing to one's identity and is associated with more adaptive psychological functioning (Oris et al., 2016). These findings highlight the importance of considering the potentially different dimensions of identifying with psychopathology and their associations with various diagnoses.

Our second hypothesis that identification with psychopathology would uniquely predict mental health group (community, symptoms or diagnosis, or clinical) above and beyond measures of psychopathology symptoms received partial support. Our findings revealed that identification with psychopathology predicted a greater likelihood of belonging to the symptoms/diagnosis group versus the likelihood of being in the community group, above and beyond measures of psychopathology symptoms. Neither identification with psychopathology nor psychopathology symptoms could, however, predict whether an individual was more likely

to belong to the clinical group as opposed to the community group. These findings suggest that even though identification plays a role in psychopathology, its impact may be more pronounced in less severe conditions within the community rather than in a clinical context. One possible explanation could be that individuals within the clinical group are more likely to engage in emotional avoidance, resulting in ineffective emotional regulation strategies (Barlow et al., 2004). In narrative identity research, a participant may choose to exclude a memory that is too painful to recall. By avoiding thinking of unpleasant experiences, the individual avoids evoking negative affect (Williams 2007). Take, for example, the excerpt below from an individual within the clinical group.

> *"Um, I feel like growing up, I've always been like a teacher's pet…and I feel like that helped because it actually like made me not want to stay home…so probably yeah, like primary years….and then even working….because that just helps me get through…Just cause coming from a depressing family, they helped me to see a better option rather than just what I saw at home."*

In this instance, the participant has chosen to recall a turning point of something they perceive to be positive. Given the in-patient mental health setting in New Zealand is characterised by high thresholds of acuity due to a serious shortage of acute in-patient beds (Ministry of Health, 2018), it is surprising that the individual has chosen to recall this narrative. Trauma is a common factor in the lives of individuals with serious mental illness (Ministry of Health, 2018), and a common trauma response is emotional avoidance (Pineles et al., 2011). As such, one potential explanation for the individual's low identification with psychopathology score could be that the individual was engaging in emotional avoidance by opting not to recall a memory likely to elicit any emotional distress (Oppenheim & Waters, 1995). This interpretation gains support from our

study, which showed that participants within the clinical group, despite having lower average depression and anxiety scores compared to both the community and symptoms or diagnosis groups, did have higher average scores in BPD and emotion dysregulation, which are characterised by maladaptive emotion regulation strategies (Carpenter & Trull, 2013).

Our final hypothesis that the mental health group would moderate the connection between identifying with psychopathology and the presence of psychopathological symptoms received partial support. Our results showed that for individuals in the community group, the extent to which they identified with psychopathology emerged as a significant predictor of depression. The mental health group was not, however, found to moderate the relationship between identification with psychopathology and anxiety, BPD, rumination, or emotion dysregulation. This finding could mean that the association between identification with psychopathology and psychopathology symptoms is relatively stable across mental health groups, indicating that identification with psychopathology has relevance across specific mental health contexts. As such, the implications of identifying with psychopathology for psychological functioning would be relatively consistent across the population. With respect to the finding of moderation for depression, one possible explanation could be that individuals in the clinical group may have more complex experiences of psychopathology relative to the degree of identification with psychopathology. Take, for example, variability in treatment and support. In this instance, the mental health group is not as relevant, but rather, access to different types of treatment, support, or interventions is critical in mitigating the strength of the relationship between identification with psychopathology and psychopathology symptoms. Studies have consistently demonstrated that early intervention and appropriate access to mental health care services are associated with better outcomes for individuals with psychopathology symptoms

(Colizzi et al., 2020; Parry, 1992). In contrast, those without adequate access to treatment and support systems may struggle with the persistence of symptoms and psychopathology content as more central to their identity. It is essential to, therefore, consider not only an individual's self-perception of psychopathology but also factors such as treatment access and interventions when analysing the relationship between identification with psychopathology and psychopathology symptoms.

Strengths and Limitations

A notable strength of this study was the inclusion of individuals with diverse mental health statuses. There is a strong consensus within the research community that involving clinical populations in studies examining psychopathology is essential to gaining a more comprehensive understanding of mental health across the spectrum (Smith & Thew, 2017). Specifically, including participants from a clinical setting enhances our understanding of the relevance and effectiveness of identification with psychopathology.

An additional strength of the study lies in the process-orientated approach. Identification with psychopathology is a dynamic process that can provide valuable insights into the underlying mechanisms contributing to the development and maintenance of psychopathology (Klimstra & Denissen, 2017). The traditional diagnostic approach to understanding the development and maintenance of psychopathology primarily involves assessing the presence or absence of symptoms (Frank & Davidson, 2014). In contrast, the narrative approach places less emphasis on the objective truth of an experience and more on how an individual personally interprets it (Westerhof & Bohlmeijer, 2012). To the best of our knowledge, this study represents the first attempt to examine the process of identification with psychopathology within the context of narrative identity research. Importantly, the finding that identification with psychopathology

stands out as a unique predictor of belonging to the community mental health group highlights the significance of identification with psychopathology in understanding and assessing mental health outcomes. This unique predictive power, in contrast to factors like rumination, emotion dysregulation, anxiety, depression, or BPD, which had no significant predictive power, suggests that when evaluating an individual's mental health status or designing interventions, special consideration should be given to considering an individual's level of identification with psychopathology.

Even though the findings offer preliminary support for the utility of identification with psychopathology in predicting psychopathology, multi-wave longitudinal research is required. This approach can attest to both the direction and stability of identification with psychopathology, which is necessary for gaining a deeper understanding of the processes that are implicated in the development and maintenance of psychopathology. As one example, it could be possible that the utility of identification with psychopathology lies in predicting the chronic persistence of psychopathology versus symptom severity. Future research should also consider the different dimensions of identification with psychopathology. As outlined previously, the concepts of engulfment and enrichment (Oris et al., 2016) may explain the unique ways an individual could identify with psychopathology, which are likely to influence associations with psychopathology symptoms.

Despite not being a main hypothesis, this study extends previous research that considers causal coherence in young adults in a community sample relative to psychological functioning (Author. et al., 2023b, 2024a) by including a clinical sample. Findings revealed reduced causal coherence in the clinical group compared to the community groups, raising an important question. To what extent is an individual's identification with psychopathology associated with

their causal coherence score? Given that a turning point narrative ‘assumes change’ (Adler et al., 2017), it could be said that for an individual to score highly in identification with psychopathology, they must also be able to narrate change. In this regard, individuals in the clinical condition may be less likely to consider themselves to have undergone any changes related to their concept of self or personality, irrespective of whether psychopathology was a central part of any change. Assessing for identification with psychopathology in a memory that is considered “self-defining” may be one approach to measurement that is less contingent on the narration of change and stability (Adler et al., 2017). For this reason, further research that considers how identification with psychopathology is best captured in narrative work is necessary.

Lastly, future research should consider the operational definition of mental health groups. Whilst this research determined mental health groups based on self-report in the community and status in the in-patient setting, the heterogeneity in psychopathology symptoms across these groups is worthy of consideration. Some individuals within the community symptoms and diagnosis group self-reported higher depressive and anxiety symptoms than those in the clinical group. It could be that consideration of different types of treatment, support, or interventions are more important to consider when contrasted to a mental health status classification. It is also worth acknowledging the prevalence of self-reported schizophrenia in the clinical group. In this context, the narratives from these individuals may reflect linguistic and memory deficits (García-Mieres et al., 2020) rather than narrative identity processes. Consistent with this perspective, McAdams (1985) recognises the limitations of narrative identity in explaining all psychopathologies. Instead, he proposes that narrative identity primarily pertains to the psychological processes through which individuals understand their lives in the modern world.

Furthermore, given the chronic shortage of acute in-patient capacity in New Zealand (Ministry of Health, 2018, p. 84), it is possible that clinically depressed or anxious individuals or individuals with BPD could be better represented in the sample by recruiting from an outpatient setting. Future research should consider how mental health group is operationalised and the relevance of diagnoses in understanding the strength of the relationship between identification with psychopathology and psychopathology symptoms.

Implications

This study is the first to utilise a narrative identity approach to examine identification with psychopathology. The study is also the first to provide empirical support for Klimstra and Denissen's (2017) theoretical framework for the role of identification in psychopathology in the association between identity and psychopathology. The findings have potentially important clinical implications in at least three ways.

Firstly, by offering support for the idea that strengthening adaptive identity aspects can decrease the probability of developing psychopathology during the identity formation stage. Although longitudinal and experimental research is needed to determine causality, understanding that identification with psychopathology can impact symptom severity, even among individuals without evident symptoms or a diagnosis, could inform early intervention strategies. In particular, identifying and addressing maladaptive identification patterns early on might help prevent the exacerbation of symptoms over time. Existing narrative therapy approaches which aim to externalise mental health symptoms are in line with this approach (White & Morgan, 2006). Furthermore, findings that identity achievement is a protective factor from the development of psychopathology (Crocetti et al., 2008; Kroger et al., 2010; Luyckx et al., 2005; Sandhu et al., 2012) support the perspective that considering identity is important in strategies

designed to prevent the development of psychopathology.

Secondly, by informing approaches to treatment. By understanding how an individual might identify with psychopathology, a therapist may be better equipped to respond to process issues. Take, for example, an individual with negative self-views. Therapy may be interpreted as a threat to identity because negative self-views are commonly labelled as cognitive distortions (Klimstra & Denissen, 2017). Therefore, assessing the degree of identification with psychopathology could be useful for pre-empting such process issues.

Finally, by informing therapy content. If an individual highly identifies with psychopathology, the therapy content might include an approach to increase autonomy over their mental health and well-being. For example, psychoeducation, cognitive-behavioural techniques, and narrative therapy that addresses identification with psychopathology could increase an individual's agency in managing their mental health.

Conclusion

We explored the utility of identification with psychopathology in predicting psychopathology symptoms (depression, anxiety, BPD features, rumination, and emotion dysregulation). We also examined the utility of identification with psychopathology in predicting which mental health group an individual belongs to (community group, symptoms or diagnosis group, or clinical group). Furthermore, we examined whether the interaction between identification with psychopathology and mental health group predicted psychopathology symptoms. We found that higher identification with psychopathology was positively related to higher psychopathology symptoms. In addition, partial support was found for identification with psychopathology in predicting an individual's mental health group. Finally, we found partial support for the mental health group moderating the relationship between identification with

psychopathology and psychopathology symptoms. The results of the current study extend previous research by providing initial evidence for the processes associated with narrative identity that could explain the relationship between identity and psychological functioning. Further, our findings reveal the complexities in factors, such as dimensions of identifying with psychopathology and access to treatment, that could influence how individuals might identify with psychopathology.

Chapter 6: General Discussion

The overarching aim of this thesis was to understand how narrative identity relates to psychological functioning by exploring processes that could be involved in this relationship. To address this aim, four studies were conducted, encompassing a systematic review and both cross-sectional and longitudinal investigations involving young undergraduate adults (ages 18-25). We also conducted a novel examination of identification with psychopathology among the community sample and a young inpatient adult (ages 18-39 years) sample. In this chapter, we will provide an overview of these four studies and their respective findings, subsequently exploring their contribution to our understanding of the processes involved in the relationship between narrative identity and psychological functioning. Moreover, we will discuss the theoretical and clinical implications derived from these findings while also acknowledging the strengths and limitations of this thesis and proposing potential areas for future research.

In the first study, we conducted a systematic review synthesising the existing literature on the relationships between narrative identity and transdiagnostic factors while identifying areas for further research. The final review comprised 11 studies from the US, Europe, and New Zealand. Sample sizes ranged from 54 to 366, primarily consisting of undergraduate students and community residents. Most studies used a quantitative cross-sectional design, examining various aspects of narrative identity and psychological functioning. There was substantial heterogeneity in the methods and measures used, and only one study employed a longitudinal design, which limits interpretations about the direction of the relationship. There was substantial variability in concepts, methods, terminology, and measures employed. This variability resulted in diverse outcomes concerning the support for rumination, overgeneral memory (OGM), emotion dysregulation, and attachment style as potential transdiagnostic factors that could partly explain

the relationship between narrative identity and psychological functioning.

To further understand the processes involved in the relationship between narrative identity and psychological functioning, we examined the moderating and mediating effects of identified transdiagnostic variables in the second study. We hypothesised that attachment and the emotional tone of the memory recalled would moderate the relationship and that rumination, emotion dysregulation, and OGM would mediate the relationship between narrative identity (measured by causal coherence and redemption) and psychological functioning (measured by symptoms of depression, anxiety, borderline personality disorder (BPD) features and well-being). In partial support of our hypotheses, findings revealed that rumination and emotion dysregulation, but not OGM, mediated the association between lower causal coherence and psychological functioning. However, no mediating effects were found for the relationship between redemption and psychological functioning. Furthermore, attachment and memory tone did not moderate any relationships between narrative identity and psychological functioning.

Given we were also interested in the direction of the relationship between narrative identity and psychological functioning processes, in Study 3 we examined concurrent and longitudinal associations between the causal coherence of turning point narratives and RDoC systems (the negative valence, social processes, and arousal and regulatory systems). We hypothesised that difficulties within the RDoC systems would be negatively associated, both concurrently and longitudinally, in a reciprocal manner with causal coherence. In partial support of our hypothesis, findings revealed that difficulties in the negative valence system were concurrently and longitudinally associated with reduced turning point causal coherence. Also, reduced turning point causal coherence predicted difficulties in the arousal and regulatory system 6 months later. However, the social processes system was neither concurrently nor longitudinally

associated with turning point causal coherence. Findings also revealed that the causal coherence of turning point narratives, the negative valence system and the arousal and regulatory system were stable over time. However, the social processes system revealed a pattern of instability in this young adult age group.

Lastly, in Study 4, we developed a novel coding scheme to examine how the degree of identification with psychopathology relates to psychopathology symptoms and mental health groups (community, symptoms/diagnosis and clinical). We hypothesised that identification with psychopathology within turning point narratives would positively relate to psychopathology symptoms. We also anticipated identification with psychopathology would independently predict which mental health group an individual belonged to beyond symptom measures. Furthermore, we hypothesised that the relationship between identifying with psychopathology and psychopathology symptoms would vary based on which mental health group an individual belonged to. In partial support of our hypotheses, we found that higher identification with psychopathology was associated with higher depression, anxiety, BPD, rumination and emotion dysregulation. We also found that identification with psychopathology predicted if an individual belonged to the symptoms or diagnosis group, above and beyond measures of psychopathology, but we did not find this association for the community or clinical groups. Lastly, moderation analyses revealed that among individuals in the community group (but not symptoms/diagnosis or clinical group), the relationship between identification with psychopathology and the mental health group was a significant predictor of depressive symptoms. However, there were no such moderation effects for anxiety or BPD symptoms.

The utility of a process-oriented approach

The findings across all studies indicated strong support for a process-orientated approach

to understanding the relationship between narrative identity and psychological functioning. Specifically, cognitive processes emerged as important in understanding the relationship between narrative identity and psychological functioning. Even though Study 1 offered mixed findings on rumination and OGM as potential cognitive processes impacting the relationship between narrative identity and psychological functioning, Study 2 supported rumination as a partial mediator between causal cohesion in turning point narratives and psychological functioning. Interestingly, however, no support was found for OGM as a mediator, which could be due to unmeasured moderating factors such as motivation, functional avoidance or symptom severity (Crane et al., 2016; Sumner et al., 2010). In Study 3, difficulties in the negative valence system (characterised by negative emotional states) predicted lower concurrent and longitudinal causal coherence. It is important to acknowledge that although negative emotional states characterise the negative valence system, there is strong evidence that these emotional states can affect an individual's cognitive processes, which, in turn, can impact an individual's capacity to recall a coherent narrative (Garnefski & Kraaij, 2006). In further support of the important role of cognition in understanding the relationship, Study 4 revealed that higher identification with psychopathology was associated with higher psychopathology symptoms.

These findings suggest that reduced causal coherence and identification with psychopathology in turning point narratives represent cognitive vulnerabilities, which could develop alongside other known cognitive vulnerabilities, such as rumination, in the development and maintenance of psychopathology symptoms. A possible explanation for cognitive processes emerging as important in understanding the relationship between narrative identity and psychological functioning is that the understanding of self fundamentally involves cognitive tasks. This perspective is consistent with research that has shown our thoughts and beliefs (such

as self-efficacy and rational reasoning) are associated with identity characteristics (Berzonsky, 2004; Berzonsky & Luyckx, 2008; Berzonsky & Neimeyer, 1988; Podd, 1972). Consistent with this perspective, many psychological theories share a common theoretical foundation that emphasises the significance of cognitive aspects, often relative to identity, in understanding psychological functioning (Brewin, 2023). Take, for example, cognitive restructuring in cognitive behavioural therapy (CBT) and cognitive reframing in schema therapy. Although CBT generally targets specific thoughts and core beliefs, while schema therapy targets more deeply held networks of connected beliefs, both approaches recognise the importance of modifying cognitive processes (Brewin, 2023; Young et al., 2003). To summarise, the findings in this thesis reveal the potentially significant role of cognitive processes, which include narrative identity characteristics, in predisposing or maintaining the development of psychopathology.

The findings from this thesis also suggest that emotional processes are important when considering the narrative identity and psychological functioning relationship. Study 1's review supported considering emotional processes (the valence of the memory narrated and emotion dysregulation) in the relationship between narrative identity and psychological functioning. Study 2 also supported emotion dysregulation as a partial mediator between causal coherence in turning point narratives and psychological functioning. However, we found no support for the valence of the memory narrated moderating the relationship between narrative identity and psychological functioning. Furthermore, in Study 3, we found support for reduced narrative causal coherence predicting higher levels of functioning in the arousal and regulatory system six months later. These findings are consistent with work by Cox and McAdams (2014), who found that meaning-making in life narratives could predict emotion regulation two years later. As such, an ability to coherently narrate experiences about changes in self-concept or personality may be a

protective factor for processing difficult emotions. This perspective aligns with psychoanalytic theory, which proposes that a "stable and integrated" identity is an essential resource for emotion regulation (Jørgensen, 2006, p. 620).

Linehan's (1993) biosocial model of BPD also considers the relationship between emotion regulation and identity. Within this model, however, heightened emotion dysregulation is posited to lead to instability across various life domains, including identity. Importantly, however, the focus is on vulnerability factors within the early childhood developmental period. Therefore, it is possible that a bidirectional relationship between emotional processes and identity may exist across different developmental contexts (Lee et al., 2023). For instance, early childhood experiences may lay the foundation for emotion regulation difficulties, subsequently influencing identity formation. In contrast, during later developmental stages, a coherent narrative identity may serve as a resource for better managing and regulating emotions. This perspective underscores the intricate interplay between psychological processes throughout the lifespan. Further research and exploration into these dynamic relationships across different developmental periods can provide valuable insights into the complexities of how emotional processes and identity play a causal role in the development and maintenance of psychopathology.

Interestingly, in turning to social processes, the expected findings were not observed across the studies that considered social processes in the relationship between identity and psychological functioning. Study 1 revealed mixed findings, whereas Study 2 found no support for attachment state of mind moderating the relationship between causal coherence and redemption with psychological functioning. Furthermore, Study 3 revealed no concurrent or longitudinal associations between the social process system and causal coherence in turning

point narratives. The lack of support for attachment in understanding the relationship between narrative identity and psychological functioning is surprising, considering the role of early relationships in storytelling. According to attachment theory, securely attached individuals are more likely to narrate rich and organised autobiographical memories (Oppenheim & Waters, 1995). This narration style is more likely because securely attached individuals have experienced more consistent engagement with caregivers who support the development of storytelling (Oppenheim & Waters, 1995).

Furthermore, it has been proposed that engaging in elaborative reminiscing could enhance attachment over time by fostering interactions between a parent and child that are characterised by sensitivity and responsiveness (Reese, 2018). One possible explanation for the null findings for attachment state of mind moderating the relationship could be the approach to measuring attachment. In Study 2, the RQ was used to measure attachment state of mind, and although the AAI is considered the gold standard approach, the RQ is frequently used due to the labour-intensive process of the AAI. In addition, while the RQ is a self-report measure of perceived attachment styles within current relationships, autonomous responding on the AAI is largely related to an individual's capacity to narrate their early attachment relationships and experiences coherently (Main et al., 2002). As such, measurement which more directly taps into the underlying internal narrative representations of attachment relationships may be more likely to elucidate relationships with turning point narratives.

Given that social processes are central to identity development (McLean, Pasupathi, & Syed, 2023), it was also surprising to see that they were unrelated to causal coherence concurrently or longitudinally in Study 3. One such explanation for this could be due to instability in social processes. In Study 3, we found that social processes (attachment, negative

relationships and self-perception) at Time 1 were unrelated to social processes 6 months later at Time 2, suggesting variability during young adulthood. Given that attachment is considered a stable social process, it could be that other social processes (such as the quality of romantic relationships or friendships) are more likely to fluctuate during young adulthood. This perspective aligns with findings that transitions in social processes characterise adolescence and young adulthood (Shanahan, 2000). Taken together, considering the stability of different social processes, such as the quality of relationships during young adulthood, might provide further insight into the relationship between narrative identity and social process.

Collectively, these findings support the utility of a process-orientated approach to understanding the narrative identity and psychological functioning relationship. Findings in Study 4 further support the utility of process-oriented research, given that identifying with psychopathology could predict an individual's mental health group over and above measures of depression, anxiety and BPD features. This perspective is consistent with work by the National Advisory Mental Health Council Workgroup (2018) and Frank and Davidson (2014), who emphasise the utility of process-orientated research in better understanding psychological functioning. Specifically, they propose that process-orientated research can share insights about the underlying mechanisms predisposing an individual to develop or maintain psychopathology symptoms. In contrast, considering psychological functioning from a diagnostic perspective can only tell us what symptoms a person is likely to be experiencing at a specific point in time (Frank & Davidson, 2014). Furthermore, given the prevalence of comorbidity, there is growing support for conceptualising psychopathology from a transdiagnostic perspective (Frank & Davidson, 2014). As such, future identity research that utilises a process-orientated approach may better advance clinical practice and refine theoretical perspectives.

Theoretical implications

One such theoretical perspective that can be refined through the process-orientated approach utilised in this thesis is McAdams's (1985, 1989, 1996, 2001, 2017) narrative identity theory. McAdams has proposed that narrative identity theory does not seek to explain all psychopathologies. Instead, narrative identity theory seeks to explain specific psychopathologies where self-related cognitions are impaired due to modern life complexities. However, these specific psychopathologies remain largely undetermined. Findings across the studies in this thesis have shown evidence for associations between narrative identity and depression, anxiety and BPD. Furthermore, work by Brewin (2023) has found evidence for associations between identity distortions and OCD, eating disorders, body dysmorphic disorder, PTSD, and personality disorders, which are often comorbid (Frank & Davidson, 2014). But what are the shared mechanisms or processes that make narrative identity likely related to these specific psychopathologies versus others?

Given that comorbidity is now considered the rule, not the exception (Krueger & Eaton, 2015), understanding the psychological processes that narrative identity is associated with can yield better insights into the forms of psychopathology to which narrative identity is likely related. Our findings suggest that shared cognitive processes can lead to the development and maintenance of psychopathology symptoms that are characterised by difficulties in self-perception, which can, in turn, lead to emotional difficulties. As such, this process-oriented understanding can refine McAdams's narrative identity theory by elucidating how self-related cognitions related to the modern world can act as a vulnerability factor in developing specific psychopathologies as opposed to others.

Another theoretical perspective that can be refined through the process-orientated

approach utilised in this thesis is Klimstra and Denissen's (2017) framework for the association between identity and psychopathology. Klimstra and Denissen (2017) propose that the relationship between identity and psychopathology is reciprocal. They propose that the individual's perception of the centrality of psychopathology to one's identity determines the strength of the association between psychopathology and identity. In support of this theoretical perspective, findings in Study 3 support a bi-directional relationship between the causal coherence of turning point narratives and psychopathology processes. However, a more subtle and specific causal pathway becomes apparent when we examine psychopathology at a process-oriented level.

Instead of a straightforward reciprocal relationship, it becomes evident that some key processes might serve as vulnerability factors in the development and maintenance of psychopathology versus others in young adulthood. For instance, when adopting a diagnostic approach, such as considering psychopathology using a measure of BPD, findings may suggest a reciprocal relationship with identity. Yet, the process-oriented approach uncovers that certain aspects of BPD, like emotion processes, hold more significance in this causal relationship than other features of BPD, such as social processes over a six-month period during young adulthood. This distinction highlights the importance of delving deeper into the nuances of psychopathology processes for a more comprehensive understanding of their relationship with identity.

Furthermore, the findings from Study 4 support Klimstra and Denissen's (2017) theory that the degree to which an individual views psychopathology content as central to their identity plays an important role in their experience of psychopathology symptoms. Specifically, we found that individuals who highly identify with psychopathology were also more likely to experience symptoms of depression, anxiety and BPD, as well as experience rumination and emotion

dysregulation. Upon inspection of the data and within the context of existing empirical research (Adler et al., 2015; Author. et al., 2024a; Klimstra & Denissen, 2017; Mitchell et al., 2020; Sajjadi et al., 2021; Vanaken, Bijttebier, et al., 2021; Verschueren et al., 2018), there is good reason to believe the relationship between identifying with psychopathology and psychological functioning may be reciprocal. Furthermore, there is good reason to believe that different dimensions of identifying with psychopathology may serve as either adaptive or maladaptive in relation to psychological well-being (Oris et al., 2016; Verschueren et al., 2018; Yeshua-Katz, 2015). For example, while advocacy might provide individuals with a sense of belonging (an adaptive aspect of identity formation), it might also prevent the exploration of other more adaptive aspects of identity (Klimstra & Denissen, 2017; Naslund et al., 2014). These findings underscore the importance of considering an individual's degree of identification with psychopathology over time in association with psychological functioning.

Clinical implications

Although the findings across the studies have important theoretical insights, they may also have important clinical implications in at least three ways. Firstly, understanding which transdiagnostic factors relate to identity can significantly inform clinical assessment and treatment. Recognising the influence of identity on psychopathology symptoms across various diagnostic categories can lead to a more holistic and personalised assessment of individuals functioning. Take, for example, our findings from Studies 2 and 4. The findings revealed that both reduced causal coherence in turning point narratives and higher identification with psychopathology were related to higher rumination and emotion dysregulation. By assessing for all of these characteristics (causal coherence in turning point narratives, identification with psychopathology, rumination and emotion dysregulation) instead of solely relying on traditional

diagnostic labels, clinicians can consider how the structure and content of an individual's narrative identity may contribute to their unique psychological challenges. This approach is in line with evidence that shows holistic and personalised assessments are related to better treatment outcomes because they allow for more targeted and tailored approaches (Frank & Davidson, 2014; Johansson et al., 2012).

Secondly, findings from Studies 3 and 4 also highlight the importance of considering the timing of narrative therapy techniques. In Study 3, we found support for a reciprocal relationship between narrative identity and psychopathology symptoms. Moreover, our results emphasise the intricacies of this relationship by revealing unidirectional associations with various RDoC systems. For example, higher causal coherence was associated with lower difficulties in the arousal and regulatory system 6 months later. This finding is consistent with Cox and McAdams (2014), who found that individuals who shared life story narratives with greater meaning-making (a form of narrative coherence) were more likely to experience greater emotion regulation 2 years later. As such, addressing causal coherence as a school-based intervention programme or in the early stages of therapy for young adults may promote later emotion regulation outcomes (Kerr et al., 2020; Macaulay & Angus, 2019).

Furthermore, Study 4 findings revealed that higher identification with psychopathology was associated with higher levels of psychopathology symptoms. Although further longitudinal research is needed, particularly throughout the identity development stage of adolescence, this process of identifying may reveal important insights into preventative strategies. For example, on the one hand, while identifying with aspects of psychopathology may bring a greater understanding of experiences and a shared community, on the other hand, identifying with aspects outside of psychopathology may act as a protective factor in the persistence and severity

of psychopathology symptoms. This perspective is consistent with the eating disorders literature, which highlights the potential of initiatives which are focused on bolstering healthy identity development to protect adolescents from developing eating disorders (Corning & Heibel, 2016). Taken together, the findings presented in this thesis underscore the importance of timing specific narrative techniques to maximise therapeutic outcomes (Beck, 2020; King & Boswell, 2019).

Lastly, the results from this thesis provide valuable insights into the potential effectiveness of the content used in narrative therapy by considering psychological processes. We found support in Studies 2 and 3 for associations between low causal coherence and high psychopathology symptoms (in Study 2, we also found the association was mediated by rumination and emotion dysregulation). As mentioned, we also found support in Study 4 for associations between higher identification with psychopathology and higher levels of psychopathology symptoms. As such, narrative therapy that aims to increase causal coherence and decrease identification with psychopathology could have positive outcomes, irrespective of specific diagnostic criteria. Therapy can focus on underlying processes that may be shared among psychopathologies by addressing transdiagnostic factors such as rumination and emotion dysregulation. There is growing support for a transdiagnostic approach to better understand the development and maintenance of psychopathology (Frank & Davidson, 2014; Insel et al., 2010). Understanding the processes involved in the development and emergence of psychopathology can offer novel ways of considering the maintenance of psychopathology, ultimately leading to clinical interventions with greater responsivity (Dalgleish et al., 2020).

Furthermore, we found no evidence for the degree of redemption in its association with psychopathology symptoms. This finding may suggest that narrative therapy focusing on redemptive sequences may be more effective in increasing well-being versus symptom reduction.

This suggestion is plausible given the strong evidence for associations between redemption and well-being measures (Adler et al., 2016). To summarise, the findings across studies in this thesis may hold important clinical implications regarding the transdiagnostic utility, the timing of interventions and the therapy content. However, it is important to note that further research with clinical samples, particularly pre- and post-intervention, will be needed to support the observational findings from this thesis.

Strengths, limitations and future research

This thesis has contributed novel information to understanding the relationship between narrative identity and psychological functioning. One notable strength across the studies is the utilisation of a process-oriented approach in understanding how narrative identity relates to psychological functioning. Unlike traditional diagnostic approaches, the process-oriented approach allows us to conceptualise the mechanisms involved in the development and maintenance of psychopathology (Frank & Davidson, 2014). Moreover, by adopting a process-orientated approach, we can better understand the highly nuanced temporal nature of the relationship between narrative identity and psychological functioning. Our findings emphasise the complexities of the relationship by demonstrating that when examining psychological functioning at a process level, unidirectional associations emerge, which may not be observed at a diagnostic level. The implications of our research extend beyond theoretical contributions. Our work also contributes to the empirical evidence supporting the relevance of transdiagnostic processes in understanding the development and maintenance of psychopathology, which may have important clinical implications for narrative therapy (Frank & Davidson, 2014). Furthermore, our research provides a foundation for future studies to explore additional transdiagnostic processes and their interactions with narrative identity and psychological

functioning.

Another notable strength of the studies in this thesis is the range of psychological functioning of the samples. In Study 1, we discovered that most studies that considered transdiagnostic variables in relation to narrative identity variables utilised community undergraduate students. In Studies 2 and 3, we also used an undergraduate sample of psychology students, albeit with a high proportion of individuals experiencing symptoms of psychopathology or reporting a current diagnosis. This finding is consistent with research which reveals that individuals enrolled in the academic field of humanities have a comparatively higher presence of difficulties in mental health (Lipson et al., 2016). As such, the presence of mental health difficulties could suggest that our sample may also reflect a subclinical population. Furthermore, in Study 4, we recruited participants from an inpatient mental health setting. The ability to assess the relationships across various presentations of psychological functioning is important for interpreting the research outcomes (Smith & Thew, 2017).

While this thesis has limitations, many could serve as potential areas for further research. One such limitation is that there were important variables such as individual coping strategies that were not controlled for (Booker et al., 2021; Brewin, 2023). Take, for example, an individual's propensity to engage in emotional avoidance. If an individual engages in emotional avoidance when recalling autobiographical memories, then this factor alone may influence whether or not communication difficulties are observed in the individual's narrative (Oppenheim & Waters, 1995). The many potential confounding variables that could impact narrative identity call for future research to adopt statistical approaches that can account for this complexity. Network analysis emerges as a promising approach because it provides a comprehensive understanding of the interactions by visualising the strength and direction of associations

between variables while considering the influence of other variables within the network (Borsboom et al., 2021). By employing network analysis, researchers can begin to identify the most influential variables associated with narrative identity while controlling for confounding variables.

Although Study 3 gathered data on two occasions, spaced 6 months apart, a limitation across Studies 2 and 4 is the reliance on data collected at a single time point. This limitation not only constrains our ability to make interpretations about causal relationships but also limits our understanding of the stability of the measures during young adulthood. To better ascertain the direction of causality and measure stability, future research should adopt a multi-wave longitudinal approach. For instance, in Study 4, it remains unclear whether current identification with psychopathology predicts later severity of psychopathology symptoms or vice versa. Furthermore, the stability of identification with psychopathology remains uncertain. For example, the clinical sample may identify with psychopathology given they were currently inpatients, which may alter the lens through which they view their past experiences, including a significant turning point. Another vital aspect that multi-wave longitudinal research could address is the nature of the connection between identification with psychopathology and psychopathology symptoms. It may be that identification is more predictive of the chronicity of symptoms rather than their severity. Therefore, conducting multi-wave longitudinal research that examines the relationship between narrative identity, transdiagnostic factors, and psychological functioning can provide valuable insights into the development and maintenance of psychopathology.

Conclusion

In conclusion, this thesis has provided valuable insights into the processes and temporal

dynamics implicated in the narrative identity and psychological functioning relationship. The studies in this thesis have shown that cognitive and emotional processes such as rumination and emotion dysregulation are important for understanding the association between how young adults share a turning point from their life story and their psychological functioning. Furthermore, this research has uncovered the nuances of the relationship by revealing the unidirectional effects of psychological processes relative to causal coherence in turning point narratives. Cross-sectional support was also found for an association between identification with psychopathology and psychopathology symptoms. Understanding these complex relationships can lead to the development of personalised and targeted interventions with greater responsivity. Future multi-wave longitudinal research should consider narrative identity, transdiagnostic and psychological functioning variables that could be implicated in the narrative identity and psychological functioning relationship, which is necessary to better understand the development and maintenance of psychopathology.

References

Abrutyn, S., Mueller, A. S., & Osborne, M. (2019). Rekeying cultural scripts for youth suicide: How social networks facilitate suicide diffusion and suicide clusters following exposure to suicide. *Society and Mental Health*, *10*(2), 112-135. https://doi.org/10.1177/2156869319834063

Addis, D. R., & Tippett, L. J. (2008). The contributions of autobiographical memory to the content and continuity of identity: A social-cognitive neuroscience approach. In *Self continuity: Individual and collective perspectives.* (pp. 71-84). Psychology Press.

Adler, J. M., Chin, E. D., Kolisetty, A. P., & Oltmanns, T. F. (2012). The distinguishing characteristics of narrative identity in adults with features of Borderline Personality Disorder: An empirical investigation. *Journal of Personality Disorders*, *26*(4), 498-512. https://doi.org/10.1521/pedi.2012.26.4.498

Adler, J. M., Dunlop, W. L., Fivush, R., Lilgendahl, J. P., Lodi-Smith, J., McAdams, D. P., McLean, K. C., Pasupathi, M., & Syed, M. (2017). Research methods for studying narrative identity: A primer. *Social Psychological and Personality Science*, *8*(5), 519-527. https://doi.org/10.1177/1948550617698202

Adler, J. M., Kissel, E. C., & McAdams, D. P. (2006). Emerging from the CAVE: Attributional style and the narrative study of identity in midlife adults. *Cognitive Therapy and Research*, *30*(1), 39-51. https://doi.org/10.1007/s10608-006-9005-1

Adler, J. M., Lodi-Smith, J., Philippe, F. L., & Houle, I. (2016). The incremental validity of narrative identity in predicting well-being: A review of the field and recommendations for the future. *Personality and Social Psychology Review*, *20*(2), 142-175. https://doi.org/10.1177/1088868315585068

Adler, J. M., & Olin, F. W. (2012). Living into the story: Agency and coherence in a longitudinal study of narrative identity development and mental health over the course of psychotherapy. *Journal of Personality and Social Psychology*, *102*(2), 367-389. https://doi.org/10.1037/a0025289

Adler, J. M., Turner, A. F., Brookshier, K. M., Monahan, C., Walder-Biesanz, I., Harmeling, L. H., Albaugh, M., McAdams, D. P., & Oltmanns, T. F. (2015). Variation in narrative identity is associated with trajectories of mental health over several years. *Journal of Personality and Social Psychology*, *108*(3), 476-496. https://doi.org/10.1037/a0038601

Adler, J. M., Wagner, J. W., & McAdams, D. P. (2007). Personality and the coherence of psychotherapy narratives. *Journal of Research in Personality*, *41*(6), 1179-1198. https://doi.org/10.1016/j.jrp.2007.02.006

Agler, R., & De Boeck, P. (2017). On the interpretation and use of mediation: Multiple perspectives on mediation analysis. *Frontiers in Psychology*, *8*, 1984. https://doi.org/10.3389/fpsyg.2017.01984

Agrawal, H. R., Gunderson, J., Holmes, B. M., & Lyons-Ruth, K. (2004). Attachment studies with borderline patients: A review. *Harvard Review of Psychiatry*, *12*(2), 94-104. https://doi.org/10.1080/10673220490447218

Ainsworth, M. S., & Bowlby, J. (1991). An ethological approach to personality development. *American Psychologist*, *46*(4), 333-341. https://doi.org/10.1037/0003-066X.46.4.333

Aldao, A., Gee, D. G., De Los Reyes, A., & Seager, I. (2016). Emotion regulation as a transdiagnostic factor in the development of internalizing and externalizing psychopathology: Current and future directions. *Development and Psychopathology*, *28*, 927-946. https://doi.org/10.1017/S0954579416000638

Alea, N., Vick, S. C., & Hyatt, A. M. (2010). The content of older adults' autobiographical memories predicts the beneficial outcomes of reminiscence group participation [Article]. *Journal of Adult Development*, *17*(3), 135-145. https://doi.org/10.1007/s10804-009-9079-6

Allen, N. B., & Badcock, P. B. (2003). The social risk hypothesis of depressed mood: Evolutionary, psychosocial, and neurobiological perspectives. *Psychological Bulletin*, *129*(6), 887.

Almeida, D. M., Charles, S. T., Mogle, J., Drewelies, J., Aldwin, C. M., Spiro, A., & Gerstorf, D. (2020). Charting adult development through (historically changing) daily stress processes. *The American Psychologist*, *75*(4), 511-524. https://doi.org/10.1037/amp0000597

Amédée, L. M., Cyr-Desautels, L., Bénard, H., Pascuzzo, K., Dubois-Comtois, K., Hébert, M., Matte-Gagné, C., & Cyr, C. (2022). Cognitive flexibility moderates the association between maltreatment and emotion regulation in residential care children of the middle childhood period. *Developmental Child Welfare*, *4*(3), 217-234. https://doi.org/10.1177/25161032221100233

American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders* (Vol. 5). https://doi.org/https://doi.org/10.1176/appi.books.9780890425787

Aromataris, E., Fernandez, R., Godfrey, C., Holly, C., Kahlil, H., & Tungpunkom, P. (2015). Summarizing systematic reviews: Methodological development, conduct and reporting of an umbrella review approach. *International Journal of Evidence-Based Healthcare*, *13*(3), 132-140.

Author., Author., & Author. (2023a). A systematic review of the relationships between narrative identity and transdiagnostic factors [Manuscript under review].

Author., Author., & Author. (2023b). Understanding the relationship between narrative identity, transdiagnostic factors, and psychological functioning in a young adult community sample [Manuscript under review].

Author., Author., & Author. (2024a). A longitudinal examination of the relationships between narrative identity and transdiagnostic psychological functioning [Manuscript under review].

Author., Author., & Author. (2024b). “My disorder is who I am”: Exploring the role of identification with psychopathology in the relationship between identity and psychopathology [Unpublished Manuscript].

Baerger, D. R., & McAdams, D. P. (1999). Life story coherence and its relation to psychological well-being. *Narrative Inquiry*, *9*(1), 69-96. https://doi.org/https://doi.org/10.1075/ni.9.1.05bae

Banks, M. V., & Salmon, K. (2018). Cognitive response styles and the construction of personal narratives: Implications for psychopathology in young adults. *Imagination, Cognition and Personality*, *37*(3), 342-358. https://doi.org/10.1177/0276236617733844

Barlow, D. H., Allen, L. B., & Choate, M. L. (2004). Toward a unified treatment for emotional disorders. *Behavior Therapy*, *35*(2), 205-230. https://doi.org/10.1016/S0005-7894(04)80036-4

Barlow, D. H., Durand, V. M., & Hofmann, S. G. (2018). *Abnormal psychology: An integrative approach* (8 ed.). Cengage Learning.

Barnes, M., Abhyankar, P., Dimova, E., & Best, C. (2020). Associations between body dissatisfaction and self-reported anxiety and depression in otherwise healthy men: A systematic review and meta-analysis. *PLoS One*, *15*(2), e0229268. https://doi.org/10.1371/journal.pone.0229268

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*(6), 1173-1182. https://doi.org/10.1037/0022-3514.51.6.1173

Barry, T. J., Hallford, D. J., & Takano, K. (2021). Autobiographical memory impairments as a transdiagnostic feature of mental illness: A meta-analytic review of investigations into autobiographical memory specificity and overgenerality among people with psychiatric diagnoses. *Psychological Bulletin*, *147*(10), 1054-1074. https://doi.org/10.1037/bul0000345

Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology*, *61*(2), 226-244. https://doi.org/10.1037/0022-3514.61.2.226

Bauer, J. J., Graham, L. E., Lauber, E. A., & Lynch, B. P. (2019). What growth sounds like: Redemption, self-improvement, and eudaimonic growth across different life narratives in relation to well-being. *Journal of Personality*, *87*(3), 546-565. https://doi.org/10.1111/jopy.12414

Beck, J. S. (2020). *Cognitive behavior therapy: Basics and beyond* (Vol. 3). Guilford Publications.

Bendstrup, G., Simonsen, E., Kongerslev, M. T., Jorgensen, M. S., Petersen, L. S., Thomsen, M. S., & Vestergaard, M. (2021). Keep. Narrative coherence of autobiographical memories in women with borderline personality disorder and associations with childhood adversity. *Borderline Personality Disorder and Emotion Dysregulation*, *8*(1). https://doi.org/10.1186/s40479-021-00159-5

Berna, F., Göritz, A. S., Schröder, J., Coutelle, R., Danion, J. M., Cuervo-Lombard, C. V., & Moritz, S. (2016). Self-disorders in individuals with autistic traits: Contribution of reduced autobiographical reasoning capacities. *Journal of Autism and Developmental Disorders*, *46*(8), 2587-2598. https://doi.org/10.1007/s10803-016-2797-2

Berntsen, D., & Rubin, D. C. (2006). The centrality of event scale: A measure of integrating a trauma into one's identity and its relation to post-traumatic stress disorder symptoms. *Behaviour Research and Therapy*, *44*(2), 219-231. https://doi.org/10.1016/j.brat.2005.01.009

Bhugra, D., & Becker, M. A. (2005). Migration, cultural bereavement and cultural identity. *World Psychiatry*, *4*(1), 18-24.

Bhugra, D., & Mastrogianni, A. (2004). Globalisation and mental disorders: Overview with relation to depression. *The British Journal of Psychiatry*, *184*(1), 10-20. https://doi.org/10.1192/bjp.184.1.10

Bird, A., & Reese, E. (2006). Emotional reminiscing and the development of an autobiographical self. *Developmental Psychology*, *42*(4), 613-626. https://doi.org/10.1037/0012-1649.42.4.613

Bluck, S., Alea, N., Habermas, T., & Rubin, D. C. (2005). A TALE of three functions: The self–reported uses of autobiographical memory. *Social Cognition*, *23*(1), 91-117. https://doi.org/10.1521/soco.23.1.91.59198

Booker, J. A., Dunsmore, J. C., & Fivush, R. (2021). Adjustment factors of attachment, hope, and motivation in emerging adult well-being. *Journal of Happiness Studies*, *22*(7), 3259-3284. https://doi.org/10.1007/s10902-021-00366-5

Booker, J. A., Graci, M. E., Hudak, L. A., Jovanovic, T., Rothbaum, B. O., Ressler, K. J., Fivush, R., & Stevens, J. (2018). Narratives in the immediate aftermath of traumatic injury: Markers of ongoing depressive and posttraumatic stress disorder symptoms. *Journal of Traumatic Stress*, *31*(2), 273-285. https://doi.org/10.1002/jts.22271

Booker, J. A., & Perlin, J. D. (2022). Moving beyond redemptive magnitude: Examining redemptive forms and themes in young adults' narratives of difficult life experiences. *Identity*, *22*(3), 198-212. https://doi.org/10.1080/15283488.2021.1957896

Borsboom, D., Deserno, M. K., Rhemtulla, M., Epskamp, S., Fried, E. I., McNally, R. J., Robinaugh, D. J., Perugini, M., Dalege, J., Costantini, G., Isvoranu, A.-M., Wysocki, A. C., van Borkulo, C. D., van Bork, R., & Waldorp, L. J. (2021). Network analysis of multivariate data in psychological science. *Nature Reviews Methods Primers*, *1*(1), 58. https://doi.org/10.1038/s43586-021-00055-w

Bowlby, J. (1969). *Attachment and loss* (Vol. 1). Basic Books.

Breen, A. V., Lewis, S. P., & Sutherland, O. (2013). Brief report: Non-suicidal self-injury in the context of self and identity development. *Journal of Adult Development*, *20*(1), 57-62. https://doi.org/10.1007/s10804-013-9156-8

Bremner, J. D. (2006). Traumatic stress: Effects on the brain. *Dialogues Clinical Neuroscience*, *8*(4), 445-461. https://doi.org/10.31887/DCNS.2006.8.4/jbremner

Brewin, C. R. (2023). Identity – A critical but neglected construct in cognitive-behaviour therapy. *Journal of Behavior Therapy and Experimental Psychiatry*, *78*, 101808. https://doi.org/https://doi.org/10.1016/j.jbtep.2022.101808

Bruner, J. (1994). The "remembered" self. In *The remembering self: Construction and accuracy in the self-narrative.* (pp. 41-54). Cambridge University Press. https://doi.org/10.1017/CBO9780511752858.005

Buss, D. M. (1991). Evolutionary personality psychology. *Annual Review of Psychology*, *42*(1), 459-491. https://doi.org/10.1146/annurev.ps.42.020191.002331

Buxton, B. A. (2016). *The relationships among rumination, narrative coherence, and well-being in a community sample of adolescents*. Te Herenga Waka Victoria University of Wellington. https://doi.org/https://doi.org/10.26686/wgtn.20388012

Carlucci, L., Saggino, A., & Balsamo, M. (2021). On the efficacy of the unified protocol for transdiagnostic treatment of emotional disorders: A systematic review and meta-analysis. *Clinical Psychology Review*, *87*, 101999-101999. https://doi.org/10.1016/j.cpr.2021.101999

Carpenter, R. W., & Trull, T. J. (2013). Components of emotion dysregulation in borderline personality disorder: A review. *Current Psychiatry Reports*, *15*(1), 335-335. https://doi.org/10.1007/s11920-012-0335-2

Charak, R., Byllesby, B. M., Fowler, J. C., Sharp, C., Elhai, J. D., & Frueh, B. C. (2019). Assessment of the revised Difficulties in Emotion Regulation Scales among adolescents and adults with severe mental illness. *Psychiatry Research*, *279*, 278-283. https://doi.org/10.1016/j.psychres.2019.04.010

Charmaz, K. (2008). Grounded theory as an emergent method. In S. N. Hesse-Biber & P. Leavy (Eds.), *Handbook of emergent methods* (pp. 155–172). The Guilford Press.

Chen, P. Y., & Krauss, A. D. (2005). Experiments, psychology. In K. Kempf-Leonard (Ed.), *Encyclopedia of Social Measurement* (pp. 911-918). Elsevier. https://doi.org/https://doi.org/10.1016/B0-12-369398-5/00327-3

Chen, Y., McAnally, H. M., Wang, Q., & Reese, E. (2012). The coherence of critical event narratives and adolescents' psychological functioning. *Memory*, *20*(7), 667-681. https://doi.org/10.1080/09658211.2012.693934

Clifford, G., Hitchcock, C., & Dalgleish, T. (2020). Negative and positive emotional complexity in the autobiographical representations of sexual trauma survivors. *Behaviour Research and Therapy*, *126*. https://doi.org/10.1016/j.brat.2020.103551

Coker, A. O., Coker, O. O., & Sanni, D. (2018). Psychometric properties of the 21-item Depression Anxiety Stress Scale (DASS-21). *African Research Review*, *12*, 135-142.

Colizzi, M., Lasalvia, A., & Ruggeri, M. (2020). Prevention and early intervention in youth mental health: Is it time for a multidisciplinary and trans-diagnostic model for care? *International Journal of Mental Health Systems*, *14*(1), 23. https://doi.org/10.1186/s13033-020-00356-9

Collins, J. A. (2021). *Narratives and attachment styles: Role of rumination, reflection and self-compassion in relation to psychological health and well-being*. S. U. o. Technology.

Corning, A. F., & Heibel, H. D. (2016). Re-thinking eating disorder prevention: The case for prioritizing the promotion of healthy identity development. *Eating Disorders*, *24*(1), 106-113. https://doi.org/10.1080/10640266.2015.1034057

Cowan, H. R., Mittal, V. A., & McAdams, D. P. (2021). Narrative identity in the psychosis spectrum: A systematic review and developmental model. *Clinical Psychology Review*, *88*, 1-18. https://doi.org/10.1016/j.cpr.2021.102067

Cox, K., & McAdams, D. P. (2014). Meaning making during high and low point life story episodes predicts emotion regulation two years later: How the past informs the future. *Journal of Research in Personality*, *50*(1), 66-70. https://doi.org/10.1016/j.jrp.2014.03.004

Cox, K. S., & McAdams, D. P. (2019). Mean level differences in the vividness, meaning, and coherence of life story high and low points: How valenced life stories do and do not differ. *Identity*, *19*(2), 128-143. https://doi.org/10.1080/15283488.2019.1604347

Crane, C., Heron, J., Gunnell, D., Lewis, G., Evans, J., & Williams, J. M. G. (2016). Adolescent over-general memory, life events and mental health outcomes: Findings from a UK cohort study. *Memory*, *24*(3), 348-363. https://doi.org/10.1080/09658211.2015.1008014

Crocetti, E., Klimstra, T., Keijsers, L., Hale, W. W., & Meeus, W. (2009). Anxiety trajectories and identity development in adolescence: A five-wave longitudinal study. *Journal of Youth and Adolescence*, *38*(6), 839-849. https://doi.org/10.1007/s10964-008-9302-y

Crocetti, E., Rubini, M., Luyckx, K., & Meeus, W. (2008). Identity formation in early and middle adolescents from various ethnic groups: From three dimensions to five statuses. *Journal of Youth and Adolescence*, *37*(8), 983-996. https://doi.org/10.1007/s10964-007-9222-2

Crowell, J. A., & Treboux, D. (1995). A review of adult attachment measures: Implications for theory and research. *Social Development*, *4*(3), 294-327. https://doi.org/10.1111/j.1467-9507.1995.tb00067.x

Cruwys, T., & Gunaseelan, S. (2016). “Depression is who I am”: Mental illness identity, stigma and wellbeing. *Journal of Affective Disorders*, *189*, 36-42. https://doi.org/10.1016/j.jad.2015.09.012

Curtiss, J. E., Levine, D. S., Ander, I., & Baker, A. W. (2021). Cognitive-behavioral treatments for anxiety and stress-related disorders. *Focus*, *19*(2), 184-189. https://doi.org/10.1176/appi.focus.20200045

Cuthbert, B. N., & Insel, T. R. (2013). Toward the future of psychiatric diagnosis: The seven pillars of RDoC. *BMC Medicine*, *11*(1), 1-8.

Cuyvers, B., Verhees, M. W. F. T., Van Ijzendoorn, M. H., Bakermans-Kranenburg, M. J., Rowe, A. C. M., Ceulemans, E., & Bosmans, G. (2022). The effect of attachment priming on state attachment security in middle childhood: The moderating roles of trait attachment and state attachment volatility. *The Journal of Early Adolescence*, *43*(2), 164-193. https://doi.org/10.1177/02724316221099871

Dalgleish, T., Black, M., Johnston, D., & Bevan, A. (2020). Transdiagnostic approaches to mental health problems: Current status and future directions. *Journal of Consulting and Clinical Psychology*, *88*(3), 179-195. https://doi.org/10.1037/ccp0000482

Dalgleish, T., Hill, E., Golden, A.-M. J., Morant, N., & Dunn, B. D. (2011). The structure of past and future lives in depression. *Journal of Abnormal Psychology*, *120*(1), 1-15. https://doi.org/10.1037/a0020797

Debeer, E., Hermans, D., & Raes, F. (2009). Associations between components of rumination and autobiographical memory specificity as measured by a Minimal Instructions Autobiographical Memory Test. *Memory*, *17*(8), 892-903. https://doi.org/10.1080/09658210903376243

Dell’Osso, L., Cremone, I. M., Carpita, B., Dell’Oste, V., Muti, D., Massimetti, G., Barlati, S., Vita, A., Fagiolini, A., & Carmassi, C. (2019). Rumination, posttraumatic stress disorder, and mood symptoms in borderline personality disorder. *Neuropsychiatric Disease and Treatment*, *15*, 1231-1238.

Diamond, A. (2005). Attention-deficit disorder (attention-deficit/ hyperactivity disorder without hyperactivity): A neurobiologically and behaviorally distinct disorder from attention-deficit/hyperactivity disorder (with hyperactivity). *Development and Psychopathology*, *17*(3), 807-825. https://doi.org/10.1017/S0954579405050388

Distel, M. A., Willemsen, G., Ligthart, L., Derom, C. A., Martin, N. G., Neale, M. C., Trull, T. J., & Boomsma, D. I. (2010). Genetic covariance structure of the four main features of Borderline Personality Disorder. *Journal of Personality Disorders*, *24*(4), 427-444. https://doi.org/https://doi.org/10.1521/pedi.2010.24.4.427

Dumas, T. M., Lawford, H., Tieu, T.-T., & Pratt, M. W. (2009). Positive parenting in adolescence and its relation to low point narration and identity status in emerging adulthood: A longitudinal analysis. *Developmental Psychology*, *45*(6), 1531-1544. https://doi.org/10.1037/a0017360

Dunn, L. B., & Jeste, D. V. (2001). Enhancing informed consent for research and treatment. *Neuropsychopharmacology*, *24*(6), 595-607. https://doi.org/10.1016/S0893-133X(00)00218-9

Ein-Dor, T., Viglin, D., & Doron, G. (2016). Extending the transdiagnostic model of attachment and psychopathology. *Frontiers in Psychology*, *7*, 484-484. https://doi.org/10.3389/fpsyg.2016.00484

Eisenberg, N., & Sulik, M. J. (2012). Emotion-related self-regulation in children. *Teaching of Psychology*, *39*(1), 77-83. https://doi.org/10.1177/0098628311430172

Eledum, H. Y. (2017). A Monte Carlo study of the effects of variability and outliers on the linear correlation coefficient. *Journal of Modern Applied Statistical Methods*, *16*(2), 13.

Ellard, K. K., Fairholme, C. P., Boisseau, C. L., Farchione, T. J., & Barlow, D. H. (2010). Unified protocol for the transdiagnostic treatment of emotional disorders: Protocol development and initial outcome data. *Cognitive and Behavioral Practice*, *17*(1), 88-101. https://doi.org/10.1016/j.cbpra.2009.06.002

Epstein, M. J., Albright, K. J., Duggan, C. H., Jeji, T., & Tate, D. G. (2006). *Narrative form Index (Expanded Version 113 Items)*. University of Michigan.

Erikson, E. H. (1950). *Childhood and Society*. W. W. Norton & Company.

Erikson, E. H. (1968). *Identity: Youth and crisis*. W. W. Norton & Company.

Etu, S. F., & Gray, J. J. (2010). A preliminary investigation of the relationship between induced rumination and state body image dissatisfaction and anxiety. *Body Image*, *7*(1), 82-85. https://doi.org/10.1016/j.bodyim.2009.09.004

Evans, L., Chang, A., Dehon, J., Streb, M., Bruce, M., Clark, E., & Handal, P. (2023). The relationships between perceived mental illness prevalence, mental illness stigma, and attitudes toward help-seeking. *Current Psychology*. https://doi.org/10.1007/s12144-023-04329-2

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*(2), 175-191. https://doi.org/10.3758/BF03193146

Fernandez, K. C., Jazaieri, H., & Gross, J. J. (2016). Emotion regulation: A transdiagnostic perspective on a new RDoC domain. *Cognitive Therapy and Research*, *40*(3), 426-440. https://doi.org/10.1007/s10608-016-9772-2

Fivush, R., Habermas, T., Waters, T. E. A., & Zaman, W. (2011). The making of autobiographical memory: Intersections of culture, narratives and identity. *International Journal of Psychology*, *46*(5), 321-345. https://doi.org/10.1080/00207594.2011.596541

Frank, R. I., & Davidson, J. (2014). *The transdiagnostic road map to case formulation and treatment planning: Practical guidance for clinical decision making*. New Harbinger Publications.

Friedman, N. P., & Robbins, T. W. (2022). The role of prefrontal cortex in cognitive control and executive function. *Neuropsychopharmacology*, *47*(1), 72-89. https://doi.org/10.1038/s41386-021-01132-0

Fu, F., & Chow, A. (2017). Traumatic exposure and psychological well-being: The moderating role of cognitive flexibility. *Journal of Loss and Trauma*, *22*(1), 24-35. https://doi.org/10.1080/15325024.2016.1161428

Fusar-Poli, P., Solmi, M., Brondino, N., Davies, C., Chae, C., Politi, P., Borgwardt, S., Lawrie, S. M., Parnas, J., & McGuire, P. (2019). Transdiagnostic psychiatry: A systematic review. *World Psychiatry*, *18*(2), 192-207. https://doi.org/10.1002/wps.20631

García-Mieres, H., Lundin, N. B., Minor, K. S., Dimaggio, G., Popolo, R., Cheli, S., & Lysaker, P. H. (2020). A cognitive model of diminished expression in schizophrenia: The interface of metacognition, cognitive symptoms and language disturbances. *Journal of Psychiatric Research*, *131*, 169-176. https://doi.org/10.1016/j.jpsychires.2020.09.008

Garnefski, N., & Kraaij, V. (2006). Relationships between cognitive emotion regulation strategies and depressive symptoms: A comparative study of five specific samples. *Personality and Individual Differences*, *40*(8), 1659-1669. https://doi.org/https://doi.org/10.1016/j.paid.2005.12.009

George, C., Kaplan, M., & Main, M. (1985). *Adult attachment interview. Unpublished manuscript*.

Gotlib, I. H., & Joormann, J. (2010). Cognition and depression: Current status and future directions. *Annual Review Clinical Psychology*, *6*, 285-312. https://doi.org/10.1146/annurev.clinpsy.121208.131305

Graci, M. E., & Fivush, R. (2017). Narrative meaning making, attachment, and psychological growth and stress. *Journal of Social and Personal Relationships*, *34*(4), 486-509. https://doi.org/10.1177/0265407516644066

Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of Psychopathology and Behavioral Assessment*, *26*(1), 41-54. https://doi.org/10.1023/B:JOBA.0000007455.08539.94

Greenhoot, A. F., Sun, S., Bunnell, S. L., & Lindboe, K. (2013). Making sense of traumatic memories: Memory qualities and psychological symptoms in emerging adults with and without abuse histories. *Memory*, *21*(1), 125-142. https://doi.org/10.1080/09658211.2012.712975

Grotevant, H. D., Lo, A. Y. H., Fiorenzo, L., & Dunbar, N. D. (2017). Adoptive identity and adjustment from adolescence to emerging adulthood: A person-centered approach. *Developmental Psychology*, *53*(11), 2195-2204. https://doi.org/10.1037/dev0000352

Gu, Y., Gu, S., Lei, Y., & Li, H. (2020). From uncertainty to anxiety: How uncertainty fuels anxiety in a process mediated by intolerance of uncertainty. *Neural Plasticity*, *2020*, 8866386. https://doi.org/10.1155/2020/8866386

Guenther, C. L., Wilton, E., & Fernandes, R. (2020). Identity. In V. Zeigler-Hill & T. K. Shackelford (Eds.), *Encyclopedia of Personality and Individual Differences* (pp. 2136-2145). Springer International Publishing. https://doi.org/10.1007/978-3-319-24612-3_1132

Gutenbrunner, C., Salmon, K., & Jose, P. (2019). What predicts overgeneral memory in youth? Testing the CaR-FA-X model longitudinally in community adolescents. *Development and Psychopathology*, *31*(2), 759-770. https://doi.org/10.1017/S0954579418000457

Habermas, T. (2011). Autobiographical reasoning: Arguing and narrating from a biographical perspective. *New Directions for Child and Adolescent Development*, *2011*(131), 1-17. https://doi.org/10.1002/cd.285

Habermas, T., & Bluck, S. (2000). Getting a life: The emergence of the life story in adolescence. *Psychological Bulletin*, *126*(5), 748-769. https://doi.org/10.1037/0033-2909.126.5.748

Habermas, T., & de Silveira, C. (2008). The development of global coherence in life narratives across adolescence: Temporal, causal, and thematic aspects. *Developmental Psychology*, *44*(3), 707-721. https://doi.org/10.1037/0012-1649.44.3.707

Habermas, T., Delarue, I., Eiswirth, P., Glanz, S., Kramer, C., Landertinger, A., Krainhofner, M., Batista, J., & Goncalves, M. M. (2021). Differences between subclinical ruminators and reflectors in narrating autobiographical memories: Innovative moments and autobiographical reasoning. *Frontiers in Psychology*, *12*, 1-12. https://doi.org/10.3389/fpsyg.2021.624644

Habermas, T., Ott, L.-M., Schubert, M., Schneider, B., & Pate, A. (2008). Stuck in the past: negative bias, explanatory style, temporal order, and evaluative perspectives in life narratives of clinically depressed individuals. *Depression and Anxiety*, *25*(11), 121-132. https://doi.org/10.1002/da.20389

Hair, J., Ringle, C., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *The Journal of Marketing Theory and Practice*, *19*, 139-151. https://doi.org/10.2753/MTP1069-6679190202

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, *31*(1), 2-24. https://doi.org/10.1108/EBR-11-2018-0203

Hallford, D. J., Rusanov, D., Yeow, J. J. E., & Barry, T. J. (2021). Overgeneral and specific autobiographical memory predict the course of depression: An updated meta-analysis. *Psychological Medicine*, *51*(6), 909-926. https://doi.org/10.1017/s0033291721001343

Harvey, A. G. (2004). *Cognitive behavioural processes across psychological disorders: A transdiagnostic approach to research and treatment*. Oxford University Press.

Hasratian, A. M., Meuret, A. E., Chmielewski, M., & Ritz, T. (2022). An examination of the RDoC Negative Valence Systems domain constructs and the self-reports unit of analysis. *Behavior Therapy*, *53*(6), 1092-1108. https://doi.org/https://doi.org/10.1016/j.beth.2022.04.009

Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach (Methodology in the Social Sciences) (2nd ed.).* The Guilford Press.

Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. In *New challenges to international marketing*. Emerald Group Publishing Limited.

Hermans, H. J. M. (2012). Dialogical self theory and the increasing multiplicity of I-positions in a globalizing society: An introduction. In H. J. M. Hermans (Ed.), *Applications of dialogical self theory: New directions for child and adolescent development* (Vol. 137, pp. 1–21). Wiley. https://doi.org/http://dx.doi.org/10.1002/cad.20014

Hickman, N. J., Prochaska, J. J., & Dunn, L. B. (2011). Screening for understanding of research in the inpatient psychiatry setting. *Journal of Empirical Research on Human Research Ethics*, *6*(3), 65-72. https://doi.org/10.1525/jer.2011.6.3.65

Higgins, J. P. T., Thompson, S. G., Deeks, J. J., & Altman, D. G. (2003). Measuring inconsistency in meta-analyses. *The BMJ*, *327*(7414), 557-560. https://doi.org/10.1136/bmj.327.7414.557

Hilt, L. M., Leitzke, B. T., & Pollak, S. D. (2014). Cognitive control and rumination in youth: The importance of emotion. *Journal of Experimental Psychopathology*, *5*(3), 302-313. https://doi.org/10.5127/jep.038113

Hofmann, S. G., & Hayes, S. C. (2018). The future of intervention science: Process-based therapy. *Clinical Psychological Science*, *7*(1), 37-50. https://doi.org/10.1177/2167702618772296

Huisman, M. (2000). Imputation of missing item responses: Some simple techniques. *Quality and Quantity*, *34*(4), 331-351. https://doi.org/10.1023/A:1004782230065

IBM Corp. (2020). *IBM SPSS Statistics for Windows*. In (Version 27.0) IBM Corp.

Insel, T., Cuthbert, B., Garvey, M., Heinssen, R., Pine, D. S., Quinn, K., Sanislow, C., & Wang, P. (2010). Research domain criteria (RDoC): Toward a new classification framework for research on mental disorders. *The American Journal of Psychiatry*, *167*(7), 748-751. https://doi.org/10.1176/appi.ajp.2010.09091379

Jensen, R. A. A., Thomsen, D. K., Bliksted, V. F., & Ladegaard, N. (2020). Narrative identity in psychopathology: A negative past and a bright but foreshortened future. *Psychiatry Research*, *290*, 1-9. https://doi.org/10.1016/j.psychres.2020.113103

Jensen, R. A. A., Thomsen, D. K., Lind, M., Ladegaard, N., & Bliksted, V. F. (2021). Storying the past and the future: Agency and communion themes among individuals with schizophrenia and depression. *Journal of Nervous and Mental Disease*, *209*(5), 343-352. https://doi.org/10.1097/nmd.0000000000001302

Jinyao, Y., Xiongzhao, Z., Auerbach, R. P., Gardiner, C. K., Lin, C., Yuping, W., & Shuqiao, Y. (2012). Insecure attachment as a predictor of depressive and anxious symptomology. *Depression and Anxiety*, *29*(9), 789-796. https://doi.org/10.1002/da.21953

Johansson, R., Sjöberg, E., Sjögren, M., Johnsson, E., Carlbring, P., Andersson, T., Rousseau, A., & Andersson, G. (2012). Tailored vs. standardized internet-based Cognitive Behavior Therapy for depression and comorbid symptoms: A randomized controlled trial. *PLoS One*, *7*(5), 36905-36905. https://doi.org/10.1371/journal.pone.0036905

Joormann, J., & Gotlib, I. H. (2010). Emotion regulation in depression: Relation to cognitive inhibition. *Cognition and Emotion*, *24*(2), 281-298. https://doi.org/10.1080/02699930903407948

Jørgensen, C. R. (2006). Disturbed sense of identity in borderline personality disorder. *Journal of Personality Disorders*, *20*(6), 618-644.

Josephson, B. R., Singer, J., & Salovey, P. (1996). Mood regulation and memory: Repairing sad moods with happy memories. *Cognition & Emotion*, *10*(4), 437-444.

Justo-Núñez, M., Morris, L., & Berry, K. (2022). Self-report measures of secure attachment in adulthood: A systematic review. *Clinical Psychology & Psychotherapy*, *29*(6), 1812-1842. https://doi.org/https://doi.org/10.1002/cpp.2756

Kazdin, A. E. (2007). Mediators and mechanisms of change in psychotherapy research. *Annual Review of Clinical Psychology*, *3*(1), 1-27. https://doi.org/10.1146/annurev.clinpsy.3.022806.091432

Kerr, D. J. R., Deane, F. P., & Crowe, T. P. (2020). A complexity perspective on narrative identity reconstruction in mental health recovery. *Qualitative Health Research*, *30*(4), 634-649. https://doi.org/10.1177/1049732319886285

Khairudin, R., Nasir, R., Halim, F. W., Zainah, A., Shahrazad, W. W., Ismail, K., & Valipour, G. (2012). Emotion and explicit verbal memory: Evidence using Malay Lexicon. *Asian Social Science*, *8*(9), 38.

King, B. R., & Boswell, J. F. (2019). Therapeutic strategies and techniques in early cognitive-behavioral therapy. *Psychotherapy*, *56*(1), 35-40. https://doi.org/10.1037/pst0000202

King, L. A., & Miner, K. N. (2000). Writing about the perceived benefits of traumatic events: Implications for physical health. *Personality & Social Psychology Bulletin*, *26*(2), 220-230. https://doi.org/10.1177/0146167200264008

Klimstra, T. A., & Denissen, J. J. A. (2017). A theoretical framework for the associations between identity and psychopathology. *Developmental Psychology*, *53*(11), 2052-2065. https://doi.org/10.1037/dev0000356

Köber, C., Schmiedek, F., & Habermas, T. (2015). Characterizing lifespan development of three aspects of coherence in life narratives: A cohort-sequential study. *Developmental Psychology, 51*(2), 260-275. https://doi.org/10.1037/a0038668

Koch, U., & Cratsley, K. (2020). Psychological Mechanisms. In V. Zeigler-Hill & T. K. Shackelford (Eds.), *Encyclopedia of Personality and Individual Differences* (pp. 4145-4154). Springer International Publishing. https://doi.org/10.1007/978-3-319-24612-3_1562

Köhler, C. A., Carvalho, A. F., Alves, G. S., McIntyre, R. S., Hyphantis, T. N., & Cammarota, M. (2015). Autobiographical memory disturbances in depression: A novel therapeutic target? *Neural Plasticity*, *2015*, 1-14. https://doi.org/10.1155/2015/759139

Kroger, J., Martinussen, M., & Marcia, J. E. (2010). Identity status change during adolescence and young adulthood: A meta-analysis. *Journal of Adolescence*, *33*(5), 683-698. https://doi.org/https://doi.org/10.1016/j.adolescence.2009.11.002

Krueger, R. F., & Eaton, N. R. (2015). Transdiagnostic factors of mental disorders. *World Psychiatry: Official Journal of the World Psychiatry Association (WPA)*, *14*(1), 27-29.

Kuster, F., Orth, U., & Meier, L. L. (2012). Rumination mediates the prospective effect of low self-esteem on depression: A five-wave longitudinal study. *Personality and Social Psychology Bulletin*, *38*(6), 747-759.

Kutner, M. H., Nachtsheim, C. J., Neter, J., & Li, W. (2005). *Applied Linear Statistical Models* (Vol. 5). McGraw-Hill/Irwin.

Kuyken, W., & Dalgleish, T. (1995). Autobiographical memory and depression. *British Journal of Clinical Psychology*, *34*(1), 89-92. https://doi.org/10.1111/j.2044-8260.1995.tb01441.x

Laible, D. (2011). Does it matter if preschool children and mothers discuss positive vs. negative events during reminiscing? Links with mother-reported attachment, family emotional climate, and socioemotional development. *Social Development 20*(2), 394-411. https://doi.org/10.1111/j.1467-9507.2010.00584.x

Leach, C. W., van Zomeren, M., Zebel, S., Vliek, M. L., Pennekamp, S. F., Doosje, B., Ouwerkerk, J. W., & Spears, R. (2008). Group-level self-definition and self-investment: a hierarchical (multicomponent) model of in-group identification. *Journal of Personality and Social Psychology*, *95*(1), 144-165. https://doi.org/10.1037/0022-3514.95.1.144

Leary, M. R., & Tangney, J. P. (2011). *Handbook of Self and Identity, Second Edition*. Guilford Publications.

Lee, A., & Hankin, B. L. (2009). Insecure attachment, dysfunctional attitudes, and low self-esteem predicting prospective symptoms of depression and anxiety during adolescence. *Journal of Clinical Child and Adolescent Psychology*, *38*(2), 219-231. https://doi.org/10.1080/15374410802698396

Lee, S. S. M., Keng, S. L., & Hong, R. Y. (2023). Validating the biosocial model of borderline personality disorder: Findings from a longitudinal study. *Development and Psychopathology*, 1-11. https://doi.org/10.1017/S0954579423001116

Levine, A., & Heller, R. S. F. (2016). Attached: The new science of adult attachment and how it can help you find—and keep—love. In D. Eskenazi & C. Alfonso, A. (Eds.), *Psychodynamic Psychiatry* (Vol. 44, pp. 600-604). Guilford Press, Inc.

Ligiéro, D. P., & Gelso, C. J. (2002). Countertransference, attachment, and the working alliance: The therapist's contribution. *Psychotherapy: Theory, Research, Practice, Training*, *39*(1), 3-11.

Lind, M. (2022). Fulfilling or failing to fulfill narrative developmental themes: An indicator of living into the good life in late adolescence. *Journal of Research in Personality*, *100*, 1-5. https://doi.org/https://doi.org/10.1016/j.jrp.2022.104283

Lind, M., Adler, J., & Clark, L. (2020). Narrative identity and personality disorder: An empirical and conceptual review. *Current Psychiatry Reports*, *22*(12), 67-67. https://doi.org/10.1007/s11920-020-01187-8

Lind, M., Vanwoerden, S., Penner, F., & Sharp, C. (2019). Inpatient adolescents with borderline personality disorder features: Identity diffusion and narrative incoherence. *Personality Disorders*, *10*(4), 389-393. https://doi.org/10.1037/per0000338

Linehan, M. (1993). *Cognitive-behavioral treatment of borderline personality disorder*. Guilford Press.

Lipson, S. K., Zhou, S., Wagner, B., Beck, K., & Eisenberg, D. (2016). Major differences: Variations in undergraduate and graduate student mental health and treatment utilization across academic disciplines. *Journal of College Student Psychotherapy*, *30*(1), 23-41. https://doi.org/10.1080/87568225.2016.1105657

Liu, Q., He, H., Yang, J., Feng, X., Zhao, F., & Lyu, J. (2020). Changes in the global burden of depression from 1990 to 2017: Findings from the Global Burden of Disease study. *Journal of Psychiatric Research*, *126*, 134-140. https://doi.org/10.1016/j.jpsychires.2019.08.002

López-Ortega, M., Torres-Castro, S., & Rosas-Carrasco, O. (2016). Psychometric properties of the Satisfaction with Life Scale (SWLS): Secondary analysis of the Mexican health and aging study. *Health and Quality of Life Outcomes*, *14*(1), 1-7. https://doi.org/10.1186/s12955-016-0573-9

Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the depression anxiety & stress scales* (2nd ed.). Psychology Foundation.

Luca, M. (2019). Maladaptive rumination as a transdiagnostic mediator of vulnerability and outcome in psychopathology. *Journal of Clinical Medicine*, *8*(3), 1-10. https://doi.org/10.3390/jcm8030314

Luyckx, K., Goossens, L., Soenens, B., Beyers, W., & Vansteenkiste, M. (2005). Identity statuses based on 4 rather than 2 identity dimensions: Extending and refining Marcia's paradigm. *Journal of Youth and Adolescence*, *34*(6), 605-618. https://doi.org/10.1007/s10964-005-8949-x

Luyckx, K., Vanderhaegen, J., Raemen, L., & Claes, L. (2023). Identity formation in adolescence and emerging adulthood: A process-oriented and applied perspective. *European Journal of Developmental Psychology*, 1-20. https://doi.org/10.1080/17405629.2023.2250128

Macaulay, C. B., & Angus, L. (2019). The narrative-emotion process model: An integrative approach to working with complex posttraumatic stress. *Journal of Psychotherapy Integration*, *29*(1), 42-53. https://doi.org/10.1037/int0000118

Main, M., & Goldwyn, R. (1998). Adult attachment scoring and classification system [Unpublished Manuscript].

Main, M., Goldwyn, R., & Hesse, E. (2002). *Classification and scoring systems for the Adult Attachment Interview. Unpublished manuscript*.

Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. *Monographs of the Society for Research in Child Development*, *50*(1/2), 66-104. https://doi.org/10.2307/3333827

Marcia, J. E. (1966). Development and validation of ego-identity status. *Journal of Personality and Social Psychology*, *3*(5), 551-558. https://doi.org/10.1037/h0023281

Marcussen, K., Gary, K. M., & Serpe, R. T. (2021). Meaning matters: Measuring the mental illness identity. *Social Science Research*, *100*, 102617-102617. https://doi.org/10.1016/j.ssresearch.2021.102617

Marin, K. A., & Shkreli, A. (2019). An examination of trauma narratives: Narrative rumination, self-reflection, and identity in young adulthood. *Journal of Adolescence*, *76*, 139-151. https://doi.org/10.1016/j.adolescence.2019.08.007

Maurex, L., Lekander, M., Nilsonne, A., Andersson, E. E., Asberg, M., & Ohman, A. (2010). Social problem solving, autobiographical memory, trauma, and depression in women with borderline personality disorder and a history of suicide attempts. *British Journal of Clinical Psychology*, *49*(3), 327-342. https://doi.org/10.1348/014466509x454831

McAdams, D., Diamond, A., Aubin, E., & Mansfield, E. (1997). Stories of commitment: The psychosocial construction of generative lives. *Journal of Personality and Social Psychology*, *72*, 678-694. https://doi.org/10.1037/0022-3514.72.3.678

McAdams, D. P. (1985). *Power, intimacy, and the life story: Personological inquiries into identity*. Guilford Press.

McAdams, D. P. (1989). The development of a narrative identity. In D. M. Buss & N. Cantor (Eds.), *Personality psychology*. Springer. https://doi.org/https://doi.org/10.1007/978-1-4684-0634-4_12

McAdams, D. P. (1996). Personality, modernity, and the storied self: A contemporary framework for studying persons. *Psychological Inquiry*, *7*(4), 295-321. https://doi.org/10.1207/s15327965pli0704_1

McAdams, D. P. (2001). The psychology of life stories. *Review of General Psychology*, *5*(2), 100-122. https://doi.org/10.1037/1089-2680.5.2.100

McAdams, D. P. (2006). *Guided Autobiography*. Retrieved 2022, 20 March from https://www.sesp.northwestern.edu/docs/guided_autobiograph.pdf

McAdams, D. P. (2008a). *The Life Story Interview II (2007)*. The Foley Center for the Study of Lives. http://www.sesp.northwestern.edu/foley/instruments/interview/

McAdams, D. P. (2008b). Personal narrative and life story. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (pp. 242–262). The Guilford Press.

McAdams, D. P. (2013). The psychological self as actor, agent, and author. *Perspectives on Psychological Science*, *8*(3), 272-295. https://doi.org/10.1177/1745691612464657

McAdams, D. P. (2017). Life-story approach to identity. In V. Zeigler-Hill & T. K. Shackelford (Eds.), *Encyclopedia of personality and individual differences* (pp. 2650-2653). Springer International Publishing. https://doi.org/10.1007/978-3-319-24612-3_530

McAdams, D. P. (2018). Narrative identity: What is It? What does it do? How do you measure it? *Imagination, Cognition and Personality*, *37*(3), 359-372. https://doi.org/10.1177/0276236618756704

McAdams, D. P. (2019). "First we invented stories, then they changed us": The evolution of narrative identity. *Evolutionary Studies in Imaginative Culture*, *3*(1), 1-18. https://doi.org/10.26613/esic.3.1.110

McAdams, D. P., Lensky, D. B., Daple, S. A., & Allen, J. (1988). Depression and the organization of autobiographical memory. *Journal of Social and Clinical Psychology*, *7*(4), 332-349. https://doi.org/10.1521/jscp.1988.7.4.332

McAdams, D. P., & McLean, K. C. (2013). Narrative identity. *Current Directions in Psychological Science*, *22*(3), 233-238. https://doi.org/10.1177/0963721413475622

McAdams, D. P., Reynolds, J., Lewis, M., Patten, A. H., & Bowman, P. J. (2001). When bad things turn good and good things turn bad: Sequences of redemption and contamination in life narrative and their relation to psychosocial adaptation in midlife adults and in students. *Personality & Social Psychology Bulletin*, *27*(4), 474-485. https://doi.org/10.1177/0146167201274008

McCrae, R. R., & Costa, P. T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology*, *52*(1), 81-90. https://doi.org/10.1037/0022-3514.52.1.81

McDonnell, C. G., Speidel, R., Lawson, M., & Valentino, K. (2021). Reminiscing and autobiographical memory in ASD: Mother-child conversations about emotional events and how preschool-aged children recall the past. *Journal of Autism and Developmental Disorders*, *51*(9), 3085-3097. https://doi.org/10.1007/s10803-020-04770-3

McHugh, M. L. (2012). Interrater reliability: The kappa statistic. *Biochemia Medica*, *22*(3), 276-282.

McLaughlin, K. A., & Nolen-Hoeksema, S. (2011). Rumination as a transdiagnostic factor in depression and anxiety. *Behaviour Research and Therapy*, *49*(3), 186-193. https://doi.org/10.1016/j.brat.2010.12.006

McLean, K. C., Boggs, S., Haraldsson, K., Lowe, A., Fordham, C., Byers, S., & Syed, M. (2019). Personal identity development in cultural context: The socialization of master narratives about the gendered life course. *International Journal of Behavioral Development*, *44*(2), 116-126. https://doi.org/10.1177/0165025419854150

McLean, K. C., & Jennings, L. E. (2012). Teens telling tales: How maternal and peer audiences support narrative identity development. *Journal of Adolescence*, *35*(6), 1455-1469. https://doi.org/10.1016/j.adolescence.2011.12.005

McLean, K. C., & Lilgendahl, J. P. (2008). Why recall our highs and lows: Relations between memory functions, age, and well-being. *Memory*, *16*(7), 751-762. https://doi.org/10.1080/09658210802215385

McLean, K. C., & Mansfield, C. D. (2012). The co-construction of adolescent narrative identity: Narrative processing as a function of adolescent age, gender, and maternal scaffolding. *Developmental Psychology*, *48*(2), 436-447. https://doi.org/10.1037/a0025563

McLean, K. C., Pasupathi, M., & Mansfield, C. D. (2023). The challenges of the experimental paradigm in narrative identity research. *Journal of Research in Personality*, *102*, 1-9. https://doi.org/https://doi.org/10.1016/j.jrp.2022.104318

McLean, K. C., Pasupathi, M., & Syed, M. (2023). *Cognitive scripts and narrative identity are shaped by structures of power*. Doctoral dissertation, Western Washington University. https://doi.org/https://doi.org/10.31234/osf.io/92v7z

McLean, K. C., & Syed, M. (2015). Personal, master, and alternative narratives: An integrative framework for understanding identity development in context. *Human Development*, *58*(6), 318-349. https://doi.org/10.1159/000445817

Mikulincer, M., & Shaver, P. R. (2012). An attachment perspective on psychopathology. *World Psychiatry*, *11*(1), 11-15. https://doi.org/10.1016/j.wpsyc.2012.01.003

Milojevich, H. M., & Quas, J. A. (2017). Parental attachment and children's memory for attachment-relevant stories. *Applied Developmental Science*, *21*(1), 14-29. https://doi.org/10.1080/10888691.2016.1140577

Ministry of Health. (2018). *He Ara Oranga Report of the Government Inquiry into Mental Health and Addiction*. https://mentalhealth.inquiry.govt.nz/inquiry-report/he-ara-oranga/

Mitchell, C., Reese, E., Salmon, K., & Jose, P. (2020). Narrative coherence, psychopathology, and wellbeing: Concurrent and longitudinal findings in a mid-adolescent sample. *Journal of Adolescence*, *79*, 16-25. https://doi.org/10.1016/j.adolescence.2019.12.003

Morey, L. (1991). *The Personality Assessment Inventory Professional Manual*.

Murphy, J. M. (2020). Personality Assessment Inventory (PAI). In (pp. 329-333). John Wiley & Sons, Ltd. https://doi.org/10.1002/9781119547167.ch126

Naidoo, S., Bachoo, S., Patel, C., & Paruk, Z. (2006). Could a healthy ego identity serve as a protective factor against suicidal tendencies? A pilot study. *Journal of Child and Adolescent Mental Health*, *18*. https://doi.org/10.2989/17280580609486623

Najavits, L. M. (2002). *Seeking safety: A treatment manual for PTSD and substance abuse*. Guilford Publications.

Naslund, J. A., Grande, S. W., Aschbrenner, K. A., & Elwyn, G. (2014). Naturally occurring peer support through social media: The experiences of individuals with severe mental illness using YouTube. *PLoS One*, *9*(10), 1-9. https://doi.org/10.1371/journal.pone.0110171

Nathan, R., Gabbay, M., Boyle, S., Elliott, P., Giebel, C., O'Loughlin, C., Wilson, P., & Saini, P. (2021). Use of acute psychiatric hospitalisation: A study of the factors influencing decisions to arrange acute admission to inpatient mental health facilities [Original Research]. *Frontiers in Psychiatry*, *12*. https://doi.org/10.3389/fpsyt.2021.696478

National Advisory Mental Health Council Workgroup. (2018). *RDoC Changes to the Matrix Workgroup Update: Proposed Positive Valence Domain Revisions*.

National Institute of Mental Health, R. W. G. (2011). Negative Valence Systems: Workshop Proceedings. In N. A. M. H. C. Workgroup (Ed.).

National Institute of Mental Health, R. W. G. (2012a). Arousal and Regulatory Systems: Workshop Proceedings. Rockville, MD.

National Institute of Mental Health, R. W. G. (2012b). Social Processes: Workshop Proceedings. Rockville, MD.

Noam, G. G., Paget, K., Valianta, G., Borst, S., & Bartok, J. (1994). Conduct and affective disorders in developmental perspective: A systematic study of adolescent psychopathology. *Development and Psychopathology*, *6*(3), 519-532. https://doi.org/10.1017/S0954579400006088

Nolen-Hoeksema, S., & Watkins, E. R. (2011). A heuristic for developing transdiagnostic models of psychopathology: Explaining multifinality and divergent trajectories. *Perspectives on Psychological Science*, *6*(6), 589-609. https://doi.org/10.1177/1745691611419672

Ono, M., Devilly, G. J., & Shum, D. H. K. (2016). A meta-analytic review of overgeneral memory: The role of trauma history, mood, and the presence of posttraumatic stress disorder. *Psychological Trauma*, *8*(2), 157-164. https://doi.org/10.1037/tra0000027

Oostvogels, I., Bongers, I. L., & Willems, A. (2018). The role of emotion regulation, coping, self-reflection and insight in staff interaction with patients with a diagnosis of personality disorder in forensic settings. *Journal of Psychiatric and Mental Health Nursing*, *25*(9-10), 582-600. https://doi.org/10.1111/jpm.12506

Oppenheim, D., & Waters, H. S. (1995). Narrative processes and attachment representations: Issues of development and assessment. *Monographs of the Society for Research in Child Development*, *60*(2/3), 197-215. https://doi.org/10.2307/1166179

Oris, L., Rassart, J., Prikken, S., Verschueren, M., Goubert, L., Moons, P., Berg, C. A., Weets, I., & Luyckx, K. (2016). Illness identity in adolescents and emerging adults with Type 1 Diabetes: Introducing the Illness Identity Questionnaire. *Diabetes Care*, *39*(5), 757-763. https://doi.org/10.2337/dc15-2559

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., McGuinness, L. A., Stewart, L. A., Thomas, J., Tricco, A. C., Welch, V. A., Whiting, P., & Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *PLoS Medicine*, *18*(3), 1-15. https://doi.org/10.1371/JOURNAL.PMED.1003583

Palmer, B. W., Dunn, L. B., Appelbaum, P. S., Mudaliar, S., Thal, L., Henry, R., Golshan, S., & Jeste, D. V. (2005). Assessment of capacity to consent to research among older persons with schizophrenia, Alzheimer disease, or diabetes mellitus: Comparison of a 3-item questionnaire with a comprehensive standardized capacity instrument. *Archives of General Psychiatry*, *62*(7), 726-733. https://doi.org/10.1001/archpsyc.62.7.726

Pals, J. L. (2006). Narrative identity processing of difficult life experiences: Pathways of personality development and positive self-transformation in adulthood. *Journal of Personality*, *74*(4), 1079-1110. https://doi.org/10.1111/j.1467-6494.2006.00403.x

Parola, N., Zendjidjian, X. Y., Alessandrini, M., Baumstarck, K., Loundou, A., Fond, G., Berna, F., Lançon, C., Auquier, P., & Boyer, L. (2017). Psychometric properties of the Ruminative Response Scale-short form in a clinical sample of patients with major depressive disorder. *Patient Preference and Adherence*, *11*, 929-937. https://doi.org/10.2147/PPA.S125730

Parry, T. S. (1992). The effectiveness of early intervention: A critical review. *Journal of Paediatrics and Child Health*, *28*(5), 343-346. https://doi.org/10.1111/j.1440-1754.1992.tb02688.x

Pavot, W., & Diener, E. (2013). *The Satisfaction with Life Scale (SWL)*. https://www.midss.org/

Pedersen, A. M., Nielsen Straarup, K., & Thomsen, D. K. (2018). Narrative identity in female patients with remitted bipolar disorder: A negative past and a foreshortened future. *Memory*, *26*(2), 219-228. https://doi.org/10.1080/09658211.2017.1344250

Pennebaker, J. W., & Francis, M. E. (1999). *Linguistic Inquiry and Word Count (LIWC)*. E. Publishers.

Petter, S., Straub, D., & Rai, A. (2007). Specifying formative constructs in information systems research. *Management Information Systems Quarterly*, *31*(4), 623-656. https://doi.org/10.2307/25148814

Phelps, E. A. (2004). Human emotion and memory: Interactions of the amygdala and hippocampal complex. *Current Opinion in Neurobiology*, *14*(2), 198-202.

Piaget, J. (1967). *Six psychological studies*. Random House.

Pilkonis, P. (2018). Personality Assessment Inventory-Borderline Scale (PAI-BOR)-Personality Studies.

Pineles, S. L., Mostoufi, S. M., Ready, C. B., Street, A. E., Griffin, M. G., & Resick, P. A. (2011). Trauma reactivity, avoidant coping, and PTSD symptoms: A moderating relationship? *Journal of Abnormal Psychology*, *120*(1), 240-246. https://doi.org/10.1037/a0022123

Primack, B. A., Shensa, A., Escobar-Viera, C. G., Barrett, E. L., Sidani, J. E., Colditz, J. B., & James, A. E. (2017). Use of multiple social media platforms and symptoms of depression and anxiety: A nationally-representative study among U.S. young adults. *Computers in Human Behavior*, *69*, 1-9. https://doi.org/https://doi.org/10.1016/j.chb.2016.11.013

Racine, N., McArthur, B. A., Cooke, J. E., Eirich, R., Zhu, J., & Madigan, S. (2021). Global prevalence of depressive and anxiety symptoms in children and adolescents during COVID-19: A meta-analysis. *JAMA Pediatrics*, *175*(11), 1142-1150. https://doi.org/10.1001/jamapediatrics.2021.2482

Reese, E. (2008). Maternal coherence in the Adult Attachment Interview is linked to maternal reminiscing and to children's self concept. *Attachment & Human Development*, *10*(4), 451-464. https://doi.org/10.1080/14616730802461474

Reese, E. (2018). Attachment and memory research: Reflecting on a shared past and a collaborative future. *Monographs of the Society for Research in Child Development*, *83*(4), 162-172. https://doi.org/10.1111/mono.12399

Reese, E., Chen, Y., McAnally, H. M., Myftari, E., Neha, T., Wang, Q., & Jack, F. (2014). Narratives and traits in personality development among New Zealand Māori, Chinese, and European adolescents. *Journal of Adolescence*, *37*(5), 727-737. https://doi.org/10.1016/j.adolescence.2014.02.005

Reese, E., Haden, C. A., Baker-Ward, L., Bauer, P., Fivush, R., & Ornstein, P. A. (2011). Coherence of personal narratives across the lifespan: A multidimensional model and coding method. *Journal of Cognitive Development*, *12*(4), 424-462. https://doi.org/10.1080/15248372.2011.587854

Reese, E., Myftari, E., McAnally, H. M., Chen, Y., Neha, T., Wang, Q., Jack, F., & Robertson, S. J. (2017). Telling the tale and living well: Adolescent narrative identity, personality traits, and well-being across cultures. *Child Development*, *88*(2), 612-628. https://doi.org/10.1111/cdev.12618

Ridge, D., & Ziebland, S. (2006). "The old me could never have done that": How people give meaning to recovery following depression. *Qualitative Health Research*, *16*(8), 1038-1053. https://doi.org/10.1177/1049732306292132

Riggs, S. A., Paulson, A., Tunnell, E., Sahl, G., Atkison, H., & Ross, C. A. (2007). Attachment, personality, and psychopathology among adult inpatients: Self-reported romantic attachment style versus Adult Attachment Interview states of mind. *Development and Psychopathology*, *19*(1), 263-291. https://doi.org/10.1017/S0954579407070149

Riggs, S. A., Sahl, G., Greenwald, E., Atkison, H., Paulson, A., & Ross, C. A. (2007). Family environment and adult attachment as predictors of psychopathology and personality dysfunction among inpatient abuse survivors. *Violence and Victims*, *22*(5), 577-600. https://doi.org/10.1891/088667007782312159

Ringle, C. M., Wende, S., & Becker, J.-M. (2022). *SmartPLS 4*. In SmartPLS.

Riou, J., Guyon, H., & Falissard, B. (2016). An introduction to the partial least squares approach to structural equation modelling: a method for exploratory psychiatric research. *International journal of methods in psychiatric research*, *25*(3), 220-231. https://doi.org/10.1002/mpr.1497

Risi, A., Pickard, J. A., & Bird, A. L. (2021). The implications of parent mental health and wellbeing for parent-child attachment: A systematic review. *PLoS One*, *16*(12), e0260891-e0260891. https://doi.org/10.1371/journal.pone.0260891

Rodriguez-Seijas, C., Eaton, N. R., & Krueger, R. F. (2015). How transdiagnostic factors of personality and psychopathology can inform clinical assessment and intervention. *Journal of Personality Assessment*, *97*(5), 425-435. https://doi.org/10.1080/00223891.2015.1055752

Roelofs, J., Muris, P., Huibers, M., Peeters, F., & Arntz, A. (2006). On the measurement of rumination: A psychometric evaluation of the ruminative response scale and the rumination on sadness scale in undergraduates. *Journal of Behavior Therapy and Experimental Psychiatry*, *37*(4), 299-313. https://doi.org/10.1016/j.jbtep.2006.03.002

Rogers, L., & Kegan, R. (1991). Mental growth and mental health as distinct concepts in the study of developmental psychopathology: Theory, research, and clinical implications. In *Constructivist perspectives on developmental psychopathology and atypical development.* (pp. 103-147). Lawrence Erlbaum Associates, Inc.

Rosenberg, M. (1989). *Society and the Adolescent Self-Image. Revised Edition.* . Wesleyan University Press.

Rubin, D. C., Boals, A., & Hoyle, R. H. (2014). Narrative centrality and negative affectivity: Independent and interactive contributors to stress reactions. *Journal of Experimental Psychology*, *143*(3), 1159-1170. https://doi.org/10.1037/a0035140

Ruggeri, K., Garcia-Garzon, E., Maguire, Á., Matz, S., & Huppert, F. A. (2020). Well-being is more than happiness and life satisfaction: A multidimensional analysis of 21 countries. *Health and Quality of Life Outcomes*, *18*(1), 192. https://doi.org/10.1186/s12955-020-01423-y

Sajjadi, S. F., Gross, J., Sellbom, M., & Hayne, H. (2021). Narrative identity in borderline personality disorder. *Personality Disorders: Theory, Research, and Treatment*, 1-13. https://doi.org/10.1037/per0000476

Sales, J. M., Merrill, N. A., & Fivush, R. (2013). Does making meaning make it better? Narrative meaning making and well-being in at-risk African-American adolescent females. *Memory*, *21*(1), 97-110. https://doi.org/10.1080/09658211.2012.706614

Salmon, K., Isler, L., Jose, P., Glynn, R., Mitchell, C., Dewhirst, M., Buxton, B., Gutenbrunner, C., & Reese, E. (2021). Delving into the detail: Greater episodic detail in narratives of a critical life event predicts an increase in adolescent depressive symptoms across one year. *Behaviour Research and Therapy*, *137*, 103798-103798. https://doi.org/10.1016/j.brat.2020.103798

Sandhu, D., Singh, B., Tung, S., & Kundra, N. (2012). Adolescent identity formation, psychological well-being, and parental attitudes. *Pakistan Journal of Psychological Research*, *27*(1), 89.

Schmitt, M., & Blum, G. S. (2020). State/ trait interactions. In V. Zeigler-Hill & T. K. Shackelford (Eds.), *Encyclopedia of personality and individual differences* (pp. 5206-5209). Springer International Publishing. https://doi.org/10.1007/978-3-319-24612-3_1922

Schwartz, S. J., Beyers, W., Luyckx, K., Soenens, B., Zamboanga, B. L., Forthun, L. F., Hardy, S. A., Vazsonyi, A. T., Ham, L. S., Kim, S. Y., Whitbourne, S. K., & Waterman, A. S. (2011). Examining the light and dark sides of emerging adults' identity: A study of identity status differences in positive and negative psychosocial functioning. *Journal of Youth and Adolescence*, *40*(7), 839-859. https://doi.org/10.1007/s10964-010-9606-6

Seligowski, A. V., Lee, D. J., Bardeen, J. R., & Orcutt, H. K. (2015). Emotion regulation and posttraumatic stress symptoms: A meta-analysis. *Cognitive Behaviour Therapy*, *44*(2), 87-102. https://doi.org/10.1080/16506073.2014.980753

Shanahan, M. J. (2000). Pathways to adulthood in changing societies: Variability and mechanisms in life course perspective. *Annual Review of Sociology*, *26*(1), 667-692. https://doi.org/10.1146/annurev.soc.26.1.667

Shiner, R. L., Klimstra, T. A., Denissen, J. J. A., & See, A. Y. (2021). The development of narrative identity and the emergence of personality disorders in adolescence. *Current Opinion in Psychology*, *37*, 49-53. https://doi.org/10.1016/j.copsyc.2020.07.024

Shrestha, N. (2020). Detecting multicollinearity in regression analysis. *American Journal of Applied Mathematics and Statistics*, *8*(2), 39-42.

Singer, J. A., Blagov, P., Berry, M., & Oost, K. M. (2013). Self-defining memories, scripts, and the life story: Narrative identity in personality and psychotherapy. *Journal of Personality*, *81*(6), 569-582. https://doi.org/10.1111/jopy.12005

Smith, K. V., & Thew, G. R. (2017). Conducting research in clinical psychology practice: Barriers, facilitators, and recommendations. *British Journal of Clinical Psychology*, *56*(3), 347-356. https://doi.org/10.1111/bjc.12142

Sokol, J. (2009). Identity development throughout the lifetime: An examination of Eriksonian theory. *Graduate Journal of Counseling Psychology*, *1*.

Sroufe, L. A., & Waters, E. (2017). Attachment as an organizational construct. *Interpersonal Development*, 109-124.

Sumner, J. A., Griffith, J. W., & Mineka, S. (2010). Overgeneral autobiographical memory as a predictor of the course of depression: A meta-analysis. *Behaviour Research and Therapy*, *48*(7), 614-625. https://doi.org/10.1016/j.brat.2010.03.013

Sumner, J. A., Mineka, S., & McAdams, D. P. (2013). Specificity in autobiographical memory narratives correlates with performance on the Autobiographical Memory Test and prospectively predicts depressive symptoms. *Memory*, *21*(6), 646-656. https://doi.org/10.1080/09658211.2012.746372

Sutin, A. R., Costa, P. T., Wethington, E., & Eaton, W. (2010). Perceptions of stressful life events as turning points are associated with self-rated health and psychological distress. *Anxiety, Stress, and Coping*, *23*(5), 479-492. https://doi.org/10.1080/10615800903552015

Svoboda, E., McKinnon, M. C., & Levine, B. (2006). The functional neuroanatomy of autobiographical memory: A meta-analysis. *Neuropsychologia*, *44*(12), 2189-2208. https://doi.org/10.1016/j.neuropsychologia.2006.05.023

Swann, J. W. B., & Bosson, J. K. (2008). Identity negotiation: A theory of self and social interaction. In *Handbook of personality: Theory and research* (Vol. 3, pp. 448-471). The Guilford Press.

Takano, K., Ueno, M., Moriya, J., Mori, M., Nishiguchi, Y., & Raes, F. (2017). Unraveling the linguistic nature of specific autobiographical memories using a computerized classification algorithm. *Behavior Research Methods*, *49*(3), 835-852. https://doi.org/10.3758/s13428-016-0753-x

Tamayo, R. (2011). A checklist to define the psychological processes. *Revista Colombiana de Psicología*, *20*, 321-327.

Tan, J. S., Hessel, E. T., Loeb, E. L., Schad, M. M., Allen, J. P., & Chango, J. M. (2016). Long-term predictions from early adolescent attachment state of mind to romantic relationship behaviors. *Journal of Research on Adolescence*, *26*(4), 1022-1035. https://doi.org/10.1111/jora.12256

Tavernier, R., & Willoughby, T. (2012). Adolescent turning points: The association between meaning-making and psychological well-being. *Developmental Psychology*, *48*(4), 1058-1068. https://doi.org/10.1037/a0026326

Thompson, R. (2008). Early attachment and later development. *Handbook of attachment: Theory, research, and clinical applications*, 348-365.

Thompson, R. A. (2019). Emotion dysregulation: A theme in search of definition. *Development and Psychopathology*, *31*(3), 805-815. https://doi.org/10.1017/S0954579419000282

Thomsen, D. K., Yung Mehlsen, M., Christensen, S., & Zachariae, R. (2003). Rumination—relationship with negative mood and sleep quality. *Personality and Individual Differences*, *34*(7), 1293-1301. https://doi.org/https://doi.org/10.1016/S0191-8869(02)00120-4

Treynor, W., Gonzalez, R., & Nolen-Hoeksema, S. (2003). Rumination reconsidered: A psychometric analysis. *Cognitive Therapy and Research*, *27*(3), 247-259. https://doi.org/10.1023/A:1023910315561

Trusz, S. (2020). Why do females choose to study humanities or social sciences, while males prefer technology or science? Some intrapersonal and interpersonal predictors. *Social Psychology of Education*, *23*(3), 615-639. https://doi.org/10.1007/s11218-020-09551-5

Tull, M. T., Vidaña, A. G., & Betts, J. E. (2020). Chapter 10 - Emotion regulation difficulties in PTSD. In M. T. Tull & N. A. Kimbrel (Eds.), *Emotion in Posttraumatic Stress Disorder* (pp. 295-310). Academic Press. https://doi.org/https://doi.org/10.1016/B978-0-12-816022-0.00010-7

Twenge, J. M., Cooper, A. B., Joiner, T. E., Duffy, M. E., & Binau, S. G. (2019). Age, period, and cohort trends in mood disorder indicators and suicide-related outcomes in a nationally representative dataset, 2005–2017. *Journal of Abnormal Psychology*, *128*(3), 185-199. https://doi.org/10.1037/abn0000410

Tyng, C. M., Amin, H. U., Saad, M. N. M., & Malik, A. S. (2017). The influences of emotion on learning and memory. *Frontiers in Psychology*, *8*, 1454. https://doi.org/10.3389/fpsyg.2017.01454

Valentino, K. (2011). A developmental psychopathology model of overgeneral autobiographical memory. *Developmental Review*, *31*(1), 32-54. https://doi.org/https://doi.org/10.1016/j.dr.2011.05.001

Van den Broeck, K., Claes, L., Pieters, G., & Raes, F. (2012). Memory specificity in borderline personality disorder: Associations with depression and self-discrepancy. *Journal of Behavior Therapy and Experimental Psychiatry*, *43*, 51-59. https://doi.org/10.1016/j.jbtep.2011.02.001

Van Kessel, K., Lambie, I., & Stewart, M. W. (2002). The impact of brief planned admissions on inpatient mental health unit utilisation for people with a diagnosis of borderline personality disorder. *New Zealand Journal of Psychology*, *31*(2), 93-97.

Vanaken, L., Bijttebier, P., Fivush, R., & Hermans, D. (2021). Narrative coherence predicts emotional well-being during the COVID-19 pandemic: a two-year longitudinal study. *Cognition and Emotion*, 1-12. https://doi.org/10.1080/02699931.2021.1902283

Vanaken, L., & Hermans, D. (2020). How am I going to tell you this? The relations between social anxiety and narrative coherence. *Memory*, *28*(10), 1191-1203. https://doi.org/10.1080/09658211.2020.1826971

Vanaken, L., Smeets, T., Bijttebier, P., & Hermans, D. (2021). Keep calm and carry on: The relations between narrative coherence, trauma, social support, psychological well-being, and cortisol responses. *Frontiers in Psychology*, *12*(20), 558044-558044. https://doi.org/10.3389/fpsyg.2021.558044

Vanderveren, E., Bijttebier, P., & Hermans, D. (2017). The importance of memory specificity and memory coherence for the self: Linking two characteristics of autobiographical memory. *Frontiers in Psychology*, *8*, 1-13. https://doi.org/10.3389/fpsyg.2017.02250

Vanderveren, E., Bijttebier, P., & Hermans, D. (2019). Autobiographical memory coherence and specificity: Examining their reciprocal relation and their associations with internalizing symptoms and rumination. *Behaviour Research and Therapy*, *116*, 30-35. https://doi.org/10.1016/j.brat.2019.02.003

Vanderveren, E., Bijttebier, P., & Hermans, D. (2020). Autobiographical memory coherence in emotional disorders: The role of rumination, cognitive avoidance, executive functioning, and meaning making. *PLoS One*, *15*(4), 1-16. https://doi.org/10.1371/journal.pone.0231862

Vanderveren, E., Bogaerts, A., Claes, L., Luyckx, K., & Hermans, D. (2021). Narrative coherence of turning point memories: Associations with psychological well-being, identity functioning, and personality disorder symptoms. *Frontiers in Psychology*, *12*(523), 623903-623903. https://doi.org/10.3389/fpsyg.2021.623903

Verhaeghen, P., Aikman, S. N., Doyle-Portillo, S., Bell, C. R., & Simmons, N. (2018). When I saw me standing there: First-person and third-person memories and future projections, and how they relate to the self. *Journal of Cognitive Psychology*, *30*(4), 438-452. https://doi.org/10.1080/20445911.2018.1454451

Verschueren, M., Claes, L., Bogaerts, A., Palmeroni, N., Gandhi, A., Moons, P., & Luyckx, K. (2018). Eating disorder symptomatology and identity formation in adolescence: A cross-lagged longitudinal approach. *Frontiers in Psychology*, *9*, 816-816. https://doi.org/10.3389/fpsyg.2018.00816

Verschueren, M., Claes, L., Gandhi, A., & Luyckx, K. (2020). Identity and psychopathology: Bridging developmental and clinical research. *Emerging Adulthood*, *8*(5), 319-332. https://doi.org/10.1177/2167696819870021

Vine, V., & Aldao, A. (2014). Impaired emotional clarity and psychopathology: A transdiagnostic deficit with symptom-specific pathways through emotion regulation. *Journal of Social and Clinical Psychology*, *33*(4), 319-342. https://doi.org/http://dx.doi.org/10.1521/jscp.2014.33.4.319

Warne, N., Collishaw, S., & Rice, F. (2019). Examining the relationship between stressful life events and overgeneral autobiographical memory in adolescents at high familial risk of depression. *Memory*, *27*(3), 314-327. https://doi.org/10.1080/09658211.2018.1508591

Waterman, A. S. (1982). Identity development from adolescence to adulthood: An extension of theory and a review of research. *Developmental Psychology*, *18*, 341-358. https://doi.org/10.1037/0012-1649.18.3.341

Waters, T. E. A., & Fivush, R. (2015). Relations between narrative coherence, identity, and psychological well-being in emerging adulthood. *Journal of Personality*, *83*(4), 441-451. https://doi.org/10.1111/jopy.12120

Westerhof, G. J., & Bohlmeijer, E. T. (2012). Life stories and mental health: The role of identification processes in theory and interventions. *Narrative Works*, *2*(1), 106-128. https://doi.org/https://journals.lib.unb.ca/index.php/NW/article/view/19501

White, M. K., & Morgan, A. (2006). *Narrative therapy with children and their families*. Dulwich Centre Publications Adelaide.

Williams, J. M. G., Barnhofer, T., Crane, C., Hermans, D., Raes, F., Watkins, E., & Dalgleish, T. (2007). Autobiographical memory specificity and emotional disorder. *Psychological Bulletin*, *133*(1), 122-148. https://doi.org/10.1037/0033-2909.133.1.122

Windgassen, S., Goldsmith, K., Moss-Morris, R., & Chalder, T. (2016). Establishing how psychological therapies work: The importance of mediation analysis. *Journal of Mental Health*, *25*(2), 93-99. https://doi.org/10.3109/09638237.2015.1124400

Woody, M. L., & Gibb, B. E. (2015). Integrating NIMH Research Domain Criteria (RDoC) into depression research. *Current Opinion in Psychology*, *4*, 6-12. https://doi.org/10.1016/j.copsyc.2015.01.004

World Health Organization. (2018). *Mental health: Strengthening our response*. Retrieved 30 March 2021 from https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response

Yanos, P. T., DeLuca, J. S., Roe, D., & Lysaker, P. H. (2020). The impact of illness identity on recovery from severe mental illness: A review of the evidence. *Psychiatry Research*, *288*, 112950-112950. https://doi.org/10.1016/j.psychres.2020.112950

Yanos, P. T., Roe, D., & Lysaker, P. H. (2010). The impact of illness identity on recovery from severe mental illness. *American Journal of Psychiatric Rehabilitation*, *13*(2), 73-93. https://doi.org/10.1080/15487761003756860

Yeshua-Katz, D. (2015). Online stigma resistance in the pro-ana community. *Qualitative Health Research*, *25*(10), 1347-1358. https://doi.org/10.1177/1049732315570123

Young, J. E., Klosko, J. S., & Weishaar, M. E. (2003). *Schema therapy: A practitioner's guide*. The Guilford Press.

Zhaoyang, R., Scott, S. B., Smyth, J. M., Kang, J. E., & Sliwinski, M. J. (2020). Emotional responses to stressors in everyday life predict long-term trajectories of depressive symptoms. *Annals of Behavioral Medicine*, *54*(6), 402-412. https://doi.org/10.1093/abm/kaz057

Appendix A: PRISMA 2020 Checklist

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a literature review.	Line 7
ABSTRACT			
Abstract	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings. See the PRISMA 2020 for Abstracts checklist for the complete list.	Lines 24 - 37
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge, i.e., what is already known about your topic.	Lines 41 - 51
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	Lines 149 - 155
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses with study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	Line 188
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	Lines 176 and 183
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Lines 177 – 181
Selection process	8	State the process for selecting studies (i.e., screening, eligibility). Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	Lines 164 - 170
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	Lines 199-214
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	Line 196 / Fig 2
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were	Lines 191 - 194

The checklist has been adapted for KIN 4400 Independent Research Study in Kinesiology at the University of Guelph-Humber. Last updated: Dec 9, 2021

Adapted From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71 *Adapted From:* Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71

For more information, visit: http://www.prisma-statement.org/

S1. Table. PRISMA 2020 Checklist

Section and Topic	Item #	Checklist item	Location where item is reported
		excluded.	
Study characteristics	17	Cite each included study and present its characteristics (e.g., study size, PICOS, follow-up period).	Line 238/ Table 2
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	Table 2 and full assessment in the supplementary material (S4_File).
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	A summary of relevant results is provided in Table 2
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Lines 412-429
	23b	Discuss any limitations of the evidence included in the review.	Lines 492-523
	23c	Discuss any limitations of the review processes used.	Lines 368-370
	23d	Discuss implications of the results for practice, policy, and future research.	Lines 524-539
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	Lines 27-28
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	Lines 162-165
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	Lines 188 (Table 1, exclusion criteria) and line 169 (Figure 2, study selection flowchart)
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	Line 20
Competing interests	26	Declare any competing interests of review authors.	Lines 20-22
Availability of data, code, and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	Data is available in the supplementary material (S3_Table).

Appendix B: PROSPERO Search Protocol

NIHR | National Institute for Health Research

PROSPERO
International prospective register of systematic reviews

S2 File. PROSPERO search protocol

A systematic review of the relationships between narrative identity and transdiagnostic factors

Citation

Monique Corbett, Amy Bird, Vincent Reid. A systematic review of the relationships between narrative identity and transdiagnostic factors. PROSPERO 2021 CRD42021273159 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42021273159

Review question

Much of the current literature examining the narrative identity and psychopathology relationship has focused on diagnostic groups or symptomatology (i.e., depression, borderline personality disorder).

The current review seeks to better understand:

- What is the relationship between transdiagnostic factors and narrative identity? By examining factors in the social, emotional, and cognitive domains and how these relate to narrative identity.

By synthesising the literature, we aim to identity transdiagnostic factors with empirical support for a relationship with narrative identity. Examples of some transdiagnostic psychopathology factors that have been examined include emotion regulation, attachment, and rumination. In summary, only studies with independent measures of (1) transdiagnostic psychopathology factor(s); AND (2) narrative identity or life story will be included.

Searches

Data Sources

- The review will search multiple electronic databases.

Web of Science

Scopus

PsycINFO

Search strategy

https://www.crd.york.ac.uk/PROSPEROFILES/273159_STRATEGY_20210812.pdf

Types of study to be included

Inclusion criteria for studies:

- Contains a conceptualisation of narrative identity or personal life story.

- Observational data only

- Transdiagnostic factors are considered in the study as separate psychopathology factors using an independent measure (i.e., not rumination during narrative).

- Quantitative and qualitative studies are eligible for inclusion if they present the results of scientific peer reviewed journals (quality publications).

- Based on either secondary research synthesising the available literature or primary research involving quantitative or qualitative data.

- Available in printed or downloadable form.

Exclusion criteria:

- Commentaries (to minimise bias).

- Studies on narrative identity interventions.

- Dissertations and doctoral theses (because of availability).

- Publications from topic areas not related to psychology, psychiatry, and mental health (such as Anthropology and Literature as these are related to different concepts of narrative)

- Co-constructed narratives (e.g., parent and child)

Condition or domain being studied

Narrative identity, mental health, psychopathology, and transdiagnostic factors

Participants/population

Inclusion

- Community or clinical samples

Exclusion

- Child related studies (0 – 18 years)

Intervention(s), exposure(s)

a. Coded narrative variables

The article needs to include the systematic and reliable coding of an individual difference drawn from narratives provided by individuals about episodes that occurred in their lives or from their overarching life stories.

b. Transdiagnostic factors

The article needs to include the systematic and reliable measure of social (i.e., attachment styles), emotional (i.e., emotion regulation,), or cognitive processes (i.e., rumination or overgeneral memory).

Comparator(s)/control

Not applicable

Context

Community or clinical

Main outcome(s)

To review studies that assess narrative variables in combination with transdiagnostic factors to understand their associations with mental health and well-being.

Additional outcome(s)

Not applicable

Data extraction (selection and coding)

Study selection

- One reviewer will screen articles, and another will check decisions.
- Reviewer checking decisions will be blind to initial reviewers decisions.
- Disagreements between individual judgements will be resolved through discussion.
- EndNote© Referencing Software will be used for downloading citations and storing articles.
- EndNote© 'groups' will be used to record inclusion and exclusion decisions.

Data extraction

- Citations with abstracts that fit the inclusion criteria will be downloaded into EndNote© Referencing Software.
- Duplicates will be deleted from the EndNote © Referencing Software.
- The articles of potentially relevant citations will be accessed, and the abstract section scanned for relevancy.
- The primary reason for inclusion/ exclusion will be recorded by EndNote© 'groups'
- Excluded citations will be retained in separate folders within EndNote©
- The pdf version of relevant articles will be accessed, downloaded, and saved into EndNote.

Risk of bias (quality) assessment

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) will be used to assess risk of bias and quality assessment. The PRISMA flow diagram will be used to inform study selection. The PRISMA checklist will be used to assess study quality. It consists of a 27-item check list which addresses the introduction, methods, results, and discussion sections of studies. The Critical Appraisal Skills Programme (CASP) checklists will be used to assess the validity of the results, results, and implications of the results. The studies will be categorised into high or low quality based on the score attained from the checklists. The category will inform if a study is excluded in the systematic review or included but with limitations acknowledged.

Strategy for data synthesis

The strategy is to provide a narrative synthesis of the study's findings. The focus will be on discussing trends in the research. This will be done by highlighting the variables commonly measured within each construct and the direction of

the relationships.

Analysis of subgroups or subsets

Not applicable

Contact details for further information

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Organisational affiliation of the review

The University of Waikato
https://www.waikato.ac.nz

Review team members and their organisational affiliations

Miss Monique Corbett. The University of Waikato
Dr Amy Bird. Senior Lecturer
Professor Vincent Reid. Head of the University of Waikato's School of Psychology

Type and method of review

Systematic review

Anticipated or actual start date

09 August 2021

Anticipated completion date

01 December 2021

Funding sources/sponsors

The lead researcher is a recipient of the University of Waikato Doctoral Scholarship

Conflicts of interest

Language

English

Country

New Zealand

Stage of review

Review Ongoing

Subject index terms status

Subject indexing assigned by CRD

Subject index terms

Humans; Narration; Self Concept

Date of registration in PROSPERO

11 September 2021

Date of first submission

12 August 2021

Details of any existing review of the same topic by the same authors

Not applicable

Stage of review at time of this submission

Stage	Started	Completed
Preliminary searches	Yes	No
Piloting of the study selection process	Yes	No
Formal screening of search results against eligibility criteria	No	No
Data extraction	No	No
Risk of bias (quality) assessment	No	No
Data analysis	No	No

The record owner confirms that the information they have supplied for this submission is accurate and complete and they understand that deliberate provision of inaccurate information or omission of data may be construed as scientific misconduct.

The record owner confirms that they will update the status of the review when it is completed and will add publication details in due course.

Versions

11 September 2021

11 September 2021

Appendix C: Predefined Data Extraction Table

ID	Reference	Aim	Hypothesis/ Research Questions	Participants (recruitment strategy + response rate incl where available)	Statistical Method	Measures	Findings relevant to current study	Study Quality
1	Banks MV, Salmon K., (2018) *Cognitive response styles and the construction of personal narratives: Implications for psychopathology in young adults*. Imagination, Cognition and Personality. 37(3):342-58.	To investigate: whether life story narrative variables explain unique variance in psychopathology beyond cognitive variables, whether this differs for depression versus anxiety, and whether narrative variables interact with cognitive variables to predict psychopathology.	**Hypothesis 1:** The presence or absence of negative self-event connections would be significantly related to cognitive factors (negative explanatory style, rumination, and cognitive reappraisal) and to psychological distress (depression and anxiety). **Hypothesis 2**: Negative self-event connections would explain unique variance in predicting psychopathology over and above cognitive factors. **RQ1:** Do negative self-event connections moderate the relationship between cognitive variables and psychological distress?	Location: New Zealand Sample: n = 164 undergraduate psychology students who received course credit for participation Mean Age: 19.1 ± 2.3 Sex: 69% female	Concurrent relationships. Spearman's correlations Multiple regression analyses	Narrative Identity Measure: High point, low point, and turning point. Coded for self-event connections. Transdiagnostic Measure: Explanatory style* Rumination Cognitive reappraisal* Psychological Functioning Measure: Depression and Anxiety	Negative self-event connections were positively related to rumination(r =.24, p < 0.01, [95% CIs .09, .38]), depression (r = .24, p < 0.01, [95% CIs .07, .40]), and anxiety (r = .18, p < 0.05 [95% CIs .03, .31]), (positive self-event connections were not analysed). Rumination did not moderate the relationship between negative self-event connections and depression (B = 1.86 [95% CIs -.58, 4.21].	75%

2	Bendstrup G, Simonsen E, Kongerslev MT, Jørgensen MS, Petersen LS, Thomsen MS, et al. (2021). *Narrative coherence of autobiographical memories in women with borderline personality disorder and associations with childhood adversity.* Borderline Personality Disorder and Emotion Dysregulation 8(1) 1-18.	To determine if women with BD constructed less coherent narratives than healthy controls and whether childhood trauma was associated with narrative incoherence.	**Hypothesis 1:** Women diagnosed with BD would convey autobiographical memories less coherently than healthy women. **RQ1:** examine whether incoherent autobiographical narratives were related to more self-reported childhood trauma in participants with BD and controls, as well as with borderline symptoms in the BD group. **RQ2**: whether the autobiographical memories of BD participants were less specific than controls, and whether BD participants showed decreased narrative coherence and episodic specificity for the self, social and directive functions of autobiographical memory, respectively.	Location: Denmark Sample: n = 26 women with BD recruited from an outpatient clinic, n = 28 healthy matched controls recruited from local advertisement Age 18-45 Sex: 100% women	Group differences. Two-way repeated measures ANCOVA Multiple linear regression models	Narrative Identity Measure: Six autobiographical memories (two related to identity, two shared socially, and two that can solve current or future problems). Coded for narrative coherence (orientation, structure, affect and integration). Transdiagnostic Measure: Memory specificity Trauma Psychological Functioning Measure: Borderline Personality Disorder	There was no difference between the BD sample and controls on the average coherence score (F (1, 47)=2.004; p = .16) regardless of the type of memory (F (2, 94) = .004; p = .99). There was no difference between the BD sample and controls on the average specificity (F (1, 47)=.929; p = .34) regardless of the type of memory (F (2, 94) = 1.863; p = .16). Valence of the memory was not considered. However, the BD sample scored lower on the orientation (t (47)= -2.266; β = -.287; p = .028) and structure subscale (t (47)= -2.153; β = -.219; p = .036), but there was no apparent difference for the affect (t (47)=1.441; β = .205; p = .16), and integration scale (t (47)= -1.005; β = -.158; p = .16). Episodic specificity was positively correlated to all domains of coherence (orientation (r = .459, p <.01), structure (r = .592 p <.01) and affect (r = .313 p <.05)) apart from integration (r = -.086, p > .05).	100%

3	Booker, J. A. Dunsmore, J. C. Fivush, R. (2021). *Adjustment factors of attachment, hope, and motivation in emerging adult well-being*. Journal of Happiness Studies 22(7): 3259-3284. Study 1	To determine whether hope and expressed motivations in narratives serve as mechanisms between attachment and well-being.	**Hypothesis 1:** Wellbeing would be positively associated with lower attachment anxiety **(H1a)** and avoidance **(H1b)**, greater trait hope **(H1c)**, and greater agency **(H1d)** and communion **(H1e).** **Hypothesis 2a**: Hope would serve as an intervening variable between attachment and well-being. **Hypothesis 2b**: Agency to serve as an intervening variable between attachment avoidance and adjustment. **Hypothesis 2c:** Communion to serve as an intervening variable between attachment anxiety and adjustment. **Hypothesis 3:** Greater trait hope would be indirectly associated with higher well-being via both greater agency **(H3a**) and greater communion **(H3b).**	Location: USA Sample: n = 366. n = 221 college- and n = 145 community-recruited adults Age: 19.13 ± 1.15 Sex: 57.7% female	Mediation and moderation hypotheses. T-tests. Bivariate correlations. Path analysis. Monte-Carlo based indirect effect tests.	Narrative Identity Measure: Life goal narratives. Coded for agency and communion. Transdiagnostic Measure: Attachment security Trait hope* Psychological Functioning Measure: Psychological well-being	The associations between avoidant attachment style and themes of agency (r = -.08, *p* > .05) and communion (r = -.09, p > .05) were nonsignificant. Similarly, the associations between anxious attachment style and themes of agency (r = -.04, p > .05) and communion (r = .02, p > .05) were nonsignificant. Trait hope was negatively associated with avoidant attachment style (r = -.23, *p* < .05) and anxious attachment style (r = -.29, *p* < .05). Anxious attachment style was negatively associated with all measures of well-being (bivariate correlations on the six scales of well-being ranged from r = -.20, *p* < .05 to r = -.33, p < .05). Similarly, avoidant attachment style was negatively associated with all measures of well-being (bivariate correlations on the six scales of well-being ranged from r = -.22, *p* < .05 to r = -.37, p < .05). Associations between themes of communion and wellbeing were nonsignificant (bivariate correlations on the six scales of well-being ranged from r = .00, *p* > .05 to r = .12, *p* > .05). Similarly, associations between themes of agency and wellbeing were mostly nonsignificant (the only significant association was with the personal growth scale of wellbeing r = .22, p < .05). An indirect effect (mediation) was found between avoidant attachment and narrative agency via hope [95% CIs -.073, -.005]. An indirect effect (mediation) was found between avoidant attachment and well-being measures via hope (indirect confidence intervals for the six well-being subscales were: autonomy [95% CIs -.067, -.018], environmental mastery [95% CIs -.166, -.017], personal growth [95% CIs -.106, -.043], positive relations [95% CIs -	100%

							.131, -.052], a sense of purpose [95% CIs -.154, -.067] and self-acceptance [95% CIs -.177, -.076]. Similarly, an indirect effect (mediation) was found between anxious attachment and narrative agency via hope. An indirect effect (mediation) was found between anxious attachment and wellbeing measures via hope (indirect confidence intervals for the six wellbeing subscales were: autonomy [95% CIs -.080, -.024], environmental mastery [95% CIs -.142, -.050], personal growth [95% CIs -.090, -.030], positive relations [95% CIs -.0.111, -.036], a sense of purpose [95% CIs -.132, -.047] and self-acceptance [95% CIs -.151, -.053].	

4	Booker, J. A. Dunsmore, J. C. Fivush, R. (2021). *Adjustment factors of attachment, hope, and motivation in emerging adult well-being*. Journal of Happiness Studies 22(7): 3259-3284. Study 2	To determine whether hope and expressed motivations in narratives serve as mechanisms between attachment and well-being.	**H2a**: We examined whether hope would serve as an intervening variable between attachment and well-being. **H2b**: We expected agency to serve as an intervening variable between attachment avoidance and adjustment. **H2c:** We also expected communion to serve as an intervening variable between attachment anxiety and adjustment. **H3**: We hypothesized that greater trait hope would be indirectly associated with higher well-being via both greater agency **(H3Aa)** and greater communion **(H3b)**.	Location: USA Sample: n = 288 college adults Age: 18.4 ± 1.6 Sex: 78.3% women	Mediation and moderation hypotheses. Bivariate correlations. Path analysis. Monte Carlo-based indirect effect tests.	Narrative Identity Measure: College transition narrative. Coded for agency and communion. Transdiagnostic Measure: Attachment security Trait hope* Stress* Psychological Functioning Measure: Psychological well-being	The relationship between anxious attachment styles and themes of agency (r = -.06, p >.05) and themes of communion (r = -.00, p >.05) were non-significant. However, there was a small negative relationship between avoidant attachment and themes of agency (r = -.15, p >.05) but not with themes of communion (r = -.05, p >.05). Themes of communion were related to three of the four well-being measures (life satisfaction r = -.15, p < .05, recent stress r = -.18, p < .05, subjective happiness r = -.11, p > .05, psychological flourishing r = -.19, p < .05). Similarly, themes of agency related to two of the four measures of well-being (life satisfaction r = .14, p < .05, recent stress r = -.09, p > .05, subjective happiness r = .13, p > .05, psychological flourishing r = -.18, p < .05). Anxious attachment was associated with all of the well-being measures (life satisfaction r = -.34, p < .05, recent stress r = .24, p < .05, subjective happiness r = -.26, p < .05, psychological flourishing r = -.31, p < .05). However, avoidant attachment was related to only one of the four measures of well-being (life satisfaction r = -.07, p > .05, recent stress r = -.05, p > .05, subjective happiness r = -.08, p > .05, psychological flourishing r = -.18, p < .05). An indirect effect (mediation) was found between anxious attachment and narrative communion via hope [95% CIs -.099, -.013]. Similarly, an indirect effect (mediation) was found between avoidant attachment and narrative communion via hope [95% CIs -.068, -.002]. An indirect effect (mediation) was found between anxious attachment and well-	100%

							being via hope (life satisfaction [95% CIs -.200, -.067], recent stress [95% CIs -.008, -.052], subjective happiness [95% CIs -.182, -.059], psychological flourishing [95% CIs -.189, -.068]. Similarly, an indirect effect (mediation) was found between avoidant attachment and well-being via hope (life satisfaction [95% CIs -.146, -.007], recent stress [95% CIs -.001, -.037], subjective happiness [95% CIs -.133, -.006], psychological flourishing [95% CIs -.140, -.008].	

5	Graci ME, Fivush R. (2017). *Narrative meaning making, attachment, and psychological growth and stress.* Journal of Social and Personal Relationships 34(4): 486-509.	To understand if attachment styles and meaning-making explain how stressful and traumatic memories are narrated and how this relates to psychological health.	**Hypothesis 1**: Attachment status will be related to psychological health, such that more insecurely attached individuals will show higher levels of distress and lower levels of growth. **Hypothesis 2:** Narrative themes will contribute to predicting psychological health over and above attachment status, such that individuals who narrate more exploratory themes will show higher levels of growth and individuals who narrate more support-seeking themes will show lower levels of distress. **Hypothesis 3**: Attachment status will be related to the different forms of narrative meaning making, with more insecurely attached individuals showing less effective use of narrative exploration and support seeking, compared to securely attached individuals.	Location: USA Sample: n = 224 undergraduate psychology students who received course credit for participation. Age: 19.2 ± 2.1 Sex: 49.1% female	Moderation Correlation analyses. Hierarchical multiple regression and moderation analyses	Narrative Identity Measure: Traumatic experience narrative. Coded for exploration and support seeking. Transdiagnostic Measure: Attachment security (anxious and avoidant) Psychological Functioning Measure: Post-traumatic stress and growth	Anxious attachment was negatively associated with themes of support seeking (r = -21, p <.01) and positively associated with stress-related growth (r = .16, p < .05) and event distress (r = .29, p < .01). However, no significant associations between anxious attachment and narrative exploration (r = .03, p > .05) were found. Avoidant attachment was negatively associated with stress-related growth (r = -.14, p < .05). However, no significant associations were found between avoidant attachment and event distress (r = -.02, p > .05) or narrative exploration (r = .04, p > .05) or narrative support seeking (r = -.03, p > .05). Narrative exploration was positively associated with stress-related growth (r = .26, p < .01). However, no significant associations between narrative exploration and event distress were found (r = .09, p > .05). Narrative support seeking was negatively associated with event distress (r = -.28, p < .01). However, no significant associations between narrative exploration and stress-related growth were found (r = .03, p > .05). In the models testing for moderation, by incorporating the interaction term between narrative exploration and attachment avoidance into the regression model, a substantial portion of the growth variance was explained $\Delta R2 = .018$, ΔF (1, 205) = 4.21, p < .05. For individuals with low levels of narrative exploration, stress-related growth did not differ significantly across varying levels of attachment avoidance (low, average, and high). However, among participants with lower attachment avoidance scores, those who engaged in greater narrative exploration demonstrated the highest levels	100%

							of growth. In a second model, by incorporating the interaction term between narrative support-seeking and attachment anxiety into the regression model contributed significantly to explaining a substantial portion of the variance in event distress., $\Delta R2 = .017$, $\Delta F\ (1, 200) = 3.93$, $p < .05$. For individuals exhibiting the highest level of narrative support seeking, event distress did not significantly differ across varying levels of attachment anxiety (low, average, and high). However, among participants with higher attachment anxiety scores, those who did not express support seeking in their narratives exhibited the highest levels of stress.	

6	Greenhoot AF, Sun S, Bunnell SL, Lindboe K. (2013). *Making sense of traumatic memories: Memory qualities and psychological symptoms in emerging adults with and without abuse histories.* Memory 21(1): 125-142.	To investigate the relations between traumatic memory qualities and psychological adjustment	**Objective 1:** To examine the convergence between three traditionally separate methods for assessing meaning-making: self-report, lexical markers, and narrative measures **Objective 2:** To examine how self-report, lexical and narrative measures of meaning-making in trauma memories relate to psychological symptoms and post-study emotional reactions **Objective 3:** To determine whether the associations between these memory measures and psychological adjustment vary for people with and without abuse histories.	Location: USA Sample: n = 177 undergraduate students. Age: 19.5 ± 1.89 Sex: 53.11% women Pre-screening to recruit participants with (n = 55) and without (n = 122) self-reported abuse exposure.	Group differences. Exploratory factor analysis. Pearson product-moment correlations. General Linear Model Repeated Measures.	Narrative Identity Measure: Three stressful or traumatic personal memories. Coded using 14 frameworks, including coherence and redemption. Transdiagnostic Measure: Memory quality* Coping responses* Rumination Emotional affect Psychological Functioning Measure: Symptoms of depression, PTSD	Preliminary analyses tested for the effects of rumination, but because rumination did not affect the predictive values of the memory measures, rumination was excluded to simplify further analyses. Preliminary findings are not included in the study or supporting files. Memories with greater visceral detail were positively associated with emotional distress during ($B = 0.37$, $p < 0.0001$) and after the research ($B = 0.22$, $p < .01$). Similarly, memories with links to the present were positively associated with emotional distress during ($B = 0.20$, $p < 0.05$) and after the research ($B = 0.24$, $p < .01$).	100%

7	Habermas, T. Delarue, I. Eiswirth, P. Glanz, S. Kramer, C. Landerting er, A. Krainhofne r, M. Batista, J. Goncalves, M. M. *Difference s between subclinical ruminators and reflectors in narrating autobiogra phical memories: Innovative moments and autobiogra phical reasoning*. Frontiers Psycholog y 12: 1-12.	To understand how reasoning can be ruminative or adaptive by comparing with innovative moments and autobiographica l reasoning.	**Hypothesis 1a:** Reflectors will use more IMs than ruminators **Hypothesis 1b:** Reflectors will use more AAs than ruminators **Hypothesis 2:** We expect these differences to show only in narratives of memories of negative experiences, but not in memories that reflect on positive and negative aspects of their identity **Hypothesis 3**: Narrative characteristics (IMs and AR) will predict trait depression and anxiety over and above their prediction by trait rumination **Hypothesis 4:** The specific ways of narrating events will affect the narrators' mood	Location: USA Sample: n = 94 undergradu ate students. Based on a prescreen of n = 492, participant s were recruited with (n=55) and without (n=122) self-reported abuse exposure. To select for extreme groups of ruminators n = 38, reflectors n = 37 and unconcern ed n = 19 Age: 21.8 ± 3.7 Sex: 73.4% women	Group differenc es. ANOVA. rANOV As Correlati on analyses. Repeated multivari ate analysis of variance.	Narrative Identity Measure: Turning point event. Learning event. Three negative events. Coded for autobiograp hical arguments (as either self-event connection, change of view, or "other" memories) and innovative moments. Transdiagno stic Measure: The sample was divided into ruminators, reflectors, and unconcerned Emotion/ mood Psychologic al Functioning	State depression and anxiety were positively associated with autobiographical argument statements ($\beta = 0.24$, $p < 0.05$) and negatively associated with innovative moments ($\beta = -0.25$, $p < 0.05$). When adding rumination as a predictor in further steps, both rumination scales added to the prediction (brooding: $\beta = -0.64$, $p < 0.01$, perseverative thinking: $\beta = -0.26$, $p < 0.05$). Innovative moments were associated with life satisfaction ($r = 0.23$, $p < 0.05$) but not autobiographical arguments ($r = 0.05$, $p > 0.05$). IMs positively predicted life satisfaction ($\beta = -0.23$, $p < 0.05$) but not when rumination was entered into the equation ($\beta = -0.16$, $p > 0.05$). Group differences between ruminators and non-ruminators were not dependent on the memory valence $F(3, 91) = 0.02$, $p > 0.05$. The increase in mood after narrating memories was not predicted by any narrative measures or rumination/ reflection measures. Mood was assessed using the state scales of the STADI, specifically measuring anxiety and depression. To examine relationships with narrative variables and rumination/reflection measures, the change in mood between the beginning and end of the session was computed by subtracting the STADI state scores at the end from those at the beginning.	100%

						Measure: Anxiety, depression, and life satisfaction		

8	Pedersen AM, Nielsen Straarup K, Thomsen DK. (2018). *Narrative identity in female patients with remitted bipolar disorder: A negative past and a foreshortened future.* Memory 26(2): 219-28.	To examine narrative identity and subjective well-being between outpatients with remitted bipolar disorder (BD) and a healthy control group.	**Hypothesis 1a:** The patients in the present study would describe their past chapters as more negative and less positive compared to the control participants. **Hypothesis 1b:** We also expected that this would extend to more negative and less positive self-event connections. **Hypothesis 2**: We expect that the patients with BD would report more negative and less positive future chapters with more negative and less positive self-event connections compared to the controls. **Hypothesis 3:** We expected that if the BD patients described their future chapters as positive, they would perceive them as less probable. **Hypothesis 4:** We expected that the patients with BD would identify fewer future chapters and that these would extend less into the future compared to the healthy controls. **Hypothesis 5:** More positive and less negative chapters and more positive and less negative self-event connections would be related to better subjective well-being, and we explored relations between other	Location: Denmark Sample: n = 15 female outpatients with remitted bipolar disorder recruited from the Ambulatory for Mania and Depression at Aarhus University Hospital Risskov Age: 33.87 ± 8.75 n = 15 female healthy controls recruited by word of mouth Age: 32.80 ± 7.09	Group differences T-tests. Correlation analyses.	Narrative Identity Measure: Past and future life story chapter narratives. Self-rated for positive and negative emotional tone, positive and negative self-event connections, and subjective probability. Transdiagnostic Measure: Positive and negative affect (PANAS) Psychological Functioning Measure: Borderline Personality Disorder, Depression, Well-being, Mania	Remitted BD group reported significantly lower well-being than healthy controls ($t(28) = 6.85$, $p < .001$). There were no significant group differences between positive affect ($t(28) = 1.85$, $p > .05$) and negative affect ($t(28) = 0.39$, $p > .05$). Past narratives that made connections between the self and positive events were related to current well-being ($r = .54$, $p < 0.01$) and affect ($r = .53$, $p < 0.01$). However, future narratives that made connections between the self and positive events were related to current affect ($r = .45$, $p < 0.05$) but not well-being ($r = .27$, $p > 0.05$). Remitted BD group narrated past chapters with less positive self-event connections ($t(28) = 4.37$, $p < .001$) and more negative self-event connections ($t(28) = 3.03$, $p < .001$). There were no significant differences found between individuals with remitted borderline personality disorder (BD) and healthy controls in terms of sharing future narratives that involved either positive self-event connections ($t(28) = 1.88$, $p > .05$) or negative self-event connections ($t(28) = 0.49$, $p > .05$).	100%

			aspects of narrative identity (number and temporal extension of future chapters as well as their probability) and subjective well-being.					

9	Sumner JA, Mineka S, McAdams DP. (2013) *Specificity in autobiographical memory narratives correlates with performance on the Autobiographical Memory Test and prospectively predicts depressive symptoms*. Memory 21(6): 646-56.	To examine alternative measures of Autobiographical Memory Specificity that may better approximate naturalistic recollection processes.	**Hypothesis 1**: Reduced AMS on both AMTs and in narratives would be consistent with reduced AMS as a habitual response style. However, observing reduced AMS on the Traditional Instructions AMT, but not on the Minimal Instructions AMTor in narratives, would suggest that difficulty with remembering the instructions to retrieve specific memories was the primary factor underlying reduced AMS. **Hypothesis 2:** AMS in narratives would be inversely related to depressive symptoms concurrently and at the 10-week follow-up.	Location: USA, Sample: Undergraduate students who received course credit for participation at Time 1 (n = 55) and were compensated with $10.00 at Time 2 ($n$ = 30). Age: 19.2 ± 0.9. Sex: 58.2% women. Participants were randomly selected for two groups based on a pre-screen, representing n = 28 individuals in the top quartile and n = 27 individuals in the bottom	Short-term longitudinal. Correlation analyses. Hierarchal linear regression.	Narrative Identity Measure: A positive and negative self-defining narrative. Coded for the degree of specificity Transdiagnostic Measure: Memory specificity using AMT. Psychological Functioning Measure: Depression	Narrative memory specificity was not related to depressive symptoms (r = .05, p = .70). Memory specificity in narratives was positively related to memory specificity on the Traditional AMT task (r = .31, p < .05). Interestingly, greater memory specificity in narratives predicted lower depressive symptoms at follow-up (10 weeks later) (b = -8.91, ß = 0.40, t(27) = -2.48, p = .02.) but no significant prospective relationships for the Traditional Instructions AMT (b= =10.77, ß= -0.18, t(27)= -1.03, p =.32), or for the Minimal Instructions AMT (b = -5.08, ß= -0.11, t(27)= -0.60, p =.55).	100%

				quartile of depressive symptoms. Follow-up assessment completers (n=30) did not differ significantly from non-completers (n=25) in terms of gender, depressive symptoms at mass testing or the study session, or AMS on the Minimal Instructions AMT or SDMT. However, completers demonstrated a significantly higher proportion of specific memories on the Traditional Instructions AMT				

				(mean=.85) compared to non-completers (mean=.76), t(53)=2.06, p=.04.				

10	Vanderveren E, Bijttebier P, Hermans D. (2019) *Autobiographical memory coherence and specificity: Examining their reciprocal relation and their associations with internalizing symptoms and rumination*. Behaviour Research and Therapy 116: 30-35.	To examine the association between memory coherence and memory specificity and internalising symptoms and rumination.	**Hypothesis 1:** We predict that a positive association will be found between memory coherence and memory specificity. **Hypothesis 2:** We predict a negative association between memory coherence and depressive symptoms but not between memory coherence and anxiety-related symptoms. **Hypothesis 3:** We predict that a ruminative response style mediates the association between memory coherence and depressive symptoms.	Location: Belgium Sample: n = 229 undergraduate psychology students who received course credit for participation. Age: 18.4 ± 1.24 Sex: 86% women	Concurrent relationships. Pearson correlation coefficients. Multiple linear regression analyses.	Narrative Identity Measure: High point and low point narratives, coded for cohesion. Transdiagnostic Measure: Memory specificity. Rumination Psychological Functioning Measure: Internalising symptoms	Coherence had a significant negative relationship with depression ($r = -.14$, $p < .05$) but not with anxiety ($r = -.13$, $p > .05$). Coherence was not related to rumination ($r = -.03$, $p > .05$) but was related to memory specificity ($r = .24$, $p < .001$). After controlling for rumination and memory specificity, memory coherence could not predict depression (ß= -.11, $t(226) = -1.67$, $p = .10$). However, after controlling for rumination and memory specificity, the coherence of negative narratives could predict depression (ß= -0.11, $t(226) = -2.10$, $p = .04$).	63%

11	Vanderveren E, Bijttebier P, Hermans D. (2020) *Autobiographical memory coherence in emotional disorders: The role of rumination, cognitive avoidance, executive functioning, and meaning making.* PLoS One 15(4): 1-16.	To examine the relationship between memory coherence and both depression and PTSD by investigating mechanisms that might underpin the relation.	**Hypothesis 1a:** We predicted that being able to construct more coherent narratives, especially about negative experiences, would be related to less depressive and PTSD-related symptoms. **Hypothesis 1b:** In addition, individuals who met the clinical cut-off threshold for either depression or PTSD were predicted to construct less coherent narratives. **Hypothesis 2a:** We hypothesized a negative association between memory coherence and both rumination and cognitive avoidance. **Hypothesis 2b:** In addition, a positive relationship between the former and both executive functioning and meaning-making was predicted. **Hypothesis 3:** With regards to rumination, we additionally predicted that this negative repetitive thinking style would mediate the association between memory coherence, more particularly coherence of negative narratives, and depressive symptoms.	Location: USA Sample: n = 355 Community sample (MTurk), participants were financially compensated after completion to the amount of$4. Mean age: 38.71 ± 11.53 Sex: 58.6% female	Concurrent relationships. Indirect effect (mediation) was tested In line with Baron & Kennedy's (1986) approach using partial correlations. Pearson correlation coefficient. T-tests. Hayes PROCESS macro.	Narrative Identity Measure: High point and low point narratives, coded for cohesion. Transdiagnostic Measure: Rumination Cognitive avoidance* Executive functioning* Meaning-making* Psychological Functioning Measure: Depression PTSD	In line with Baron & Kennedy's (1986) approach correlations between rumination, coherence and depression were tested. No significant correlations were found between the coherence of narratives and depression. As such, an indirect effect was tested by conducting partial correlation coefficients between coherence and depression controlling for rumination. These indirect effects were significant for both negative narrative coherence ($r = -.16$, $p < .001$). and total narrative coherence ($r = -.16$, $p < .001$).	75%

Appendix D: Turning Point Narrative Task Instructions

The instruction was as follows:

"In looking back on one's life, it is often possible to identify certain key "turning point" – events through which a person undergoes substantial change. Turning points can occur in many different spheres of a person's life –relationships with others, work or school, outside interests, etc. I am especially interested in a turning point in your understanding of yourself. Please identify a particular event in your life story that you now see as a turning point. Write exactly: What happened? Where it happened? Who was involved? What did you do? What were you thinking and feeling? What experience may this impact have had upon you? What this experience says about who you were or who you are? If you feel that your life story contains no turning points, then describe a particular episode in your life that comes closer than any other to qualify as a turning point. Please ensure you address all questions, especially about the impact of the turning point and what this event says about who you are or were as a person. Please be very specific here. You will have up to 10 minutes allocated to complete this section".

Appendix E: Causal Coherence Coding Scheme (4-point scale)

	Definition	Example
0 points	No change in or reference to personality/ personal development. The narrative may mention external, concrete changes (Habermas and Diel, 2005). Answers "no" to the question of did this/will this event change your life and does not elaborate. Please note that responses to this question should not be the sole basis for CC coding).	…. was suddenly diagnosed …. and had to go to the hospital ….. I remember…the night before …. Surgery …. I recall pissing myself with laughter…. blissfully unaware …. I hugged … with love …. then I went to play with the … again (lol). I don't actually know if the turning point was then or years. … I can't pinpoint an exact impact but I'm sure there was a HUGE one.
1 point	The possible personality/ personal development change is referred to or implied but not detailed or explained. It does not articulate how the event has changed or will change a life.	A major turning point in my life started when I was …. I felt sexually violated. It happened at …. My … took action against it. I was thinking lowly about myself and feeling numb. It was a hurtful experience.
2 points	The possible personality/personal development change is explicitly described but does not include an evaluation or explanation of why the change occurred or will occur. Potential personal development is somewhat meaningful but is not comprehensive beyond the specific change (Habermas & Diel 2005). May respond "Yes" to a life-changing question, but the description of change doesn't evaluate or explain the change described. The change must be an internal change relating to personality or opinion rather than an external change or temporary transition between emotions. For example, "I felt guilty, then after he said it was okay, I didn't feel bad anymore" is a temporary transition of emotional state rather than personality development.	I was in my … and heard yelling … and only saw my …. My … came home the next day and said to me we were leaving …. for the police station. I was feeling very ….That day impacted my life so much and a lot has changed since then. I look back on that whole experience and can definitely say it made me more courageous and braver. This bravery I grasp to in my everyday life now.
3 points	A change in personality/personal development is described clearly with reference to motives/ causes. Links to autobiographical concepts or evaluations of change are proved by the narrator that goes beyond the specific event the participant describes. Yes, to the question of whether the event was life-changing, with a clear description and evaluation of how (including emotional content/ evaluation). Emphasis is on internal states and personality rather than general life philosophy type statements.	We still lived in … and my … got attacked on …. I observed her and talked to her, …. I was very sad ….And then … passed away. This experience made me grow up much faster than others. This also made me realise… and what kind of person I want to be in life. Like helping others and being there, because I have seen what difference it can make in others' life. This shows that I wasn't as in tuned with other people and was more focused on myself, as opposed to now.

Note: Coding scheme developed by Reese et al. (2014). The examples provided are from the current study.

Appendix F: Themes of Redemption Coding Scheme

Themes of redemption were rated using a system developed by McAdams et al. (2001) that has been used in a wide range of previous studies (e.g., Adler & Poulin, 2009; Lodi-Smith et al., 2009; McAdams et al., 2001). In this coding system, each narrative scene is assigned a score of **0 (absent) or 1 (present) for each theme.**

Definition	Example Present (1)	Example Absent (0)
Redemption is rated as present when a narrative shows a clear shift from an undesired or negative beginning to a subsequent positive ending. The beginning and end must be narrated as connected to each other, and the emergent positivity must somehow undo the core (if not the entirety) of the initial negativity. For example, one participant told the story of becoming pregnant as a teenager, the low point of her life. She starts the story on the day she came home from high school, knowing that her school counsellor was going to call and inform her mother:	*"I couldn't tell my mother, and I knew the phone was going to ring. I went and got in the bathtub. I could not tell my mother. And I heard my mother say "what?!"... I was scared. I didn't know what to do. I didn't know, I didn't know nothing about birth control or nothing. I didn't know anything… and I always say, although it was the lowest point, it was a blessing because I feel that God knew before I knew. As I always said, if I wouldn't have had that child then I would not have a child today cause I haven't met anybody that's worth anything. So God blessed me. That was a blessing for me, and I know my son loves me…that was the lowest point, and it came out to be a blessing. She describes how this nadir experience resulted in a relationship she is deeply grateful for, thus redeeming the terror and shame of the day her mother found out.*	*"I didn't get university entrance in NCEA Level 3. I was working that day… and we looked at my results. I was only a few credits away from achieving UE, but I hadn't quite got it. I'd even failed some exams that I was confident I'd passed. I sat…and cried. I had no idea what I was going to do…. I'd had plans to go to university, …. at that moment I was so devastated that I wouldn't be able to go as soon as I had planned….usually did pretty well in tests …but throughout high school, it was getting…harder each year to get good grades. … I didn't put in any effort into studying, i didn't work harder in classes. but when I saw that I'd failed to get UE, I realized that I would actually have to start putting in more effort, I would have to learn how to properly study."*

Appendix G: Overgeneral Memory Coding Scheme

	Definition	Example
Overgeneral (1)	Memory is the sum of extended memories. (an event lasting longer than one day	*"Surfing in the summer holidays."*
Specific (0)	Memory is specific. Memory refer**s** to a single specific event lasting less than **one** day	*"My last birthday"*

Note: Participants are instructed: "This is a memory test; please think of a specific situation or event which each cue reminds you of; you will have one minute per cue to type your response". All analyses were conducted on proportions of specific (or overgeneral) memories, calculated as total specific (or total overgeneral)/total memories (see also Gutenbrunner et al., 2018; Hamlat et al., 2015; Rawal & Rice, 2012).