AUTOBIOGRAPHICAL MEMORY IN THAI AND AUSTRALIAN EMERGING ADULTS: A CROSS-CULTURAL STUDY
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Abstract

The purpose of this research was to examine cultural differences in emerging adults' autobiographical memory by comparing how young Thai and Australian adults remember salient life events. This project used a quantitative research design and collected data through a Qualtrics online survey. Forty young Thai adults (20 females, 20 males) aged 18–24 residing in Thailand and 40 young Australian adults (23 females, 17 males) aged 18–24 residing in Australia were recruited. In this cross-cultural study, 'The Life Story' interview (McAdam, 2008) was adapted to capture aspects of memory coherence and meaning making from three salient life events: a high-point, a low-point and a turning-point. Using a mixed ANOVA test, with culture and gender as independent variables, two aspects of autobiographical memory were coded: (1) narrative coherence (context, chronology and theme) and (2) meaning making (lesson learning and gaining insight). The results showed that Thais had higher chronological coherence than the Australians. In contrast, however, the Australians had higher scores for meaning making, particularly for gaining insight.

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1. Introduction

1.1 Overview

'Life story' memories illustrate the critical events in an individual's life that have been internalized and integrated to create the person they have become at present (McAdams, 2001). These 'life story' memories can be categorised to include high-points (the most positive experiences), low-points (the most negative or upsetting experiences), and turning-points (experiences that mark the biggest changes), as well as other memories such as the greatest challenge. Such memories develop during adolescence and emerging adulthood, a period of dramatic transition, uncertainty and identity exploration (Arnett, 2004). Thus adolescence and early adulthood is a useful time of life for autobiographical memory research (McAdams et al., 2006; Willoughby et al., 2012). Recalling and studying memories during this period may uncover patterns of narration that are developmentally, personally, and culturally important (Fivush & Nelson, 2004).

Rich life memories may have multiple benefits. It is well-documented that a coherent personal narrative forms an important part of autobiographical memory that can be linked to positive developmental outcomes across the lifespan (Reese et al., 2011). Throughout the preschool years, children can increasingly report past experiences via everyday conversations with their parents and other familiar adults (Nelson & Fuvish, 2004). The more elaborative parents' reminiscing style, with open questions and greater detail, the more elaborative children come to be (Fuvish et al., 2006). Previous studies have shown that children who recall their past experiences with more elaboration achieve better outcomes in terms of memorising (Kulkofsky et al., 2008), communication skills (McCabe & Bliss, 2003) and understanding of self and others (Bird & Reese, 2006; Nelson & Fivush, 2004). In adolescence, identity formation or self-identity is more likely to be subsequently developed in association with

memory (Habermas & Bluck, 2000). There is a clear link established between the event in the individual's past and the current self-image. The integrated autobiographical events are used as a measure of extracting meaning or lessons that will not only help understand themselves, but provide insight to the efforts they have made in life (McLean et al., 2008).

A key feature of autobiographical memory is that it is both personal and cultural. First, memory provides a sense of self and continuity in life that one is the same person as the same one in the past (McAdams, 2001; Fivush, 2010; Habermas & Reese, 2015). During preschool years, talking to surrounding people such as parents and siblings about children's past experiences can reflect the perception of the self by others. It constructs the self-concept, understanding others' perspective and understanding the world and that extents a Continuing Me as the present and the future self (Nelson, 2001). Moreover, emotion provides personal meaning to an experience (Van Bergen et al., 2009; Van Bergen et al., 2018), and one's own emotional capacity also influences learning and long-term memory retention (Tyng et al., 2017). Second, memory operates within a broader cultural framework. Culture is one of the most important environmental factors shaping both personality and cognition (Bluck, 2015; Triandis & Suh, 2002). Past research has shown systemic differences in the content and function of autobiographical memory (Alea & Wang, 2015), memory structure (Berntsen & Rubin, 2004) and memory accessibility (Sahin & Mebert, 2013) across cultures, as well as in the ways that parents and children reminisce together (Reese & Neha, 2015; Wang & Fivush, 2005). To date however, no research to my knowledge has considered how cultural differences may affect emerging adults' memory coherence and meaning making.

In this study, I consider cultural differences in emerging adults' memory coherence and meaning making in two countries, Thailand and Australia. I focus on the coherence with which individuals are able to construct narratives of their own life events, and how they look for meaning or insights from their own past experiences (McLean & Thorne, 2001; Reese et al.,

2011). To characterise possible differences both in culture and between individuals within each group, I measure the cultural syndromes of collectivism and individualism together with interpersonal variables.

In this introduction, I briefly define autobiographical memory. Next, I review what is currently known about autobiographical memory and its development across childhood and young adulthood. Then, I briefly provide a background of culture and cognition and conclude by examining memory development and culture in emerging adulthood.

1.2 What is autobiographical memory?

Autobiographical memory is a memory from personal life experience that is different from memory of academic knowledge. It is also described as the recollection of meaningful personal life experiences. Autobiographical memory is a type of explicit memory which is conscious, based on the combination of episodic memory and semantic memory (Tuvling, 2002). Episodic memory refers to specific personal experience at a particular time and place, whereas semantic memory is associated with factual information. Tulving (1972) argues that these two forms of memory are interdependent. In his original view, semantic memory was tightly linked to language comprehension. Later, he found that there is an independent relationship between episodic and semantic memory (Tulving, 1983). He posited: 'Although language plays a more important role in representing information in semantic than in episodic memory, not all semantic knowledge is acquired though language' (Tulving, 1983, p. 41). Wheeler et al. (1997) added further that recalling personal semantic information (or fact) is linked to feeling of familiarity and does not depend on retrieving particular experiences. In contrast, re-experiencing and recollecting particular past experiences are required when recalling personal episodic information. Such information is conceived as being sensory-perceptual in nature and held as event-specific knowledge (ESK) (Conway & Pleydell-Pearce, 2000).

Figure 1. The Self-Memory System model (Conway et al., 2004)
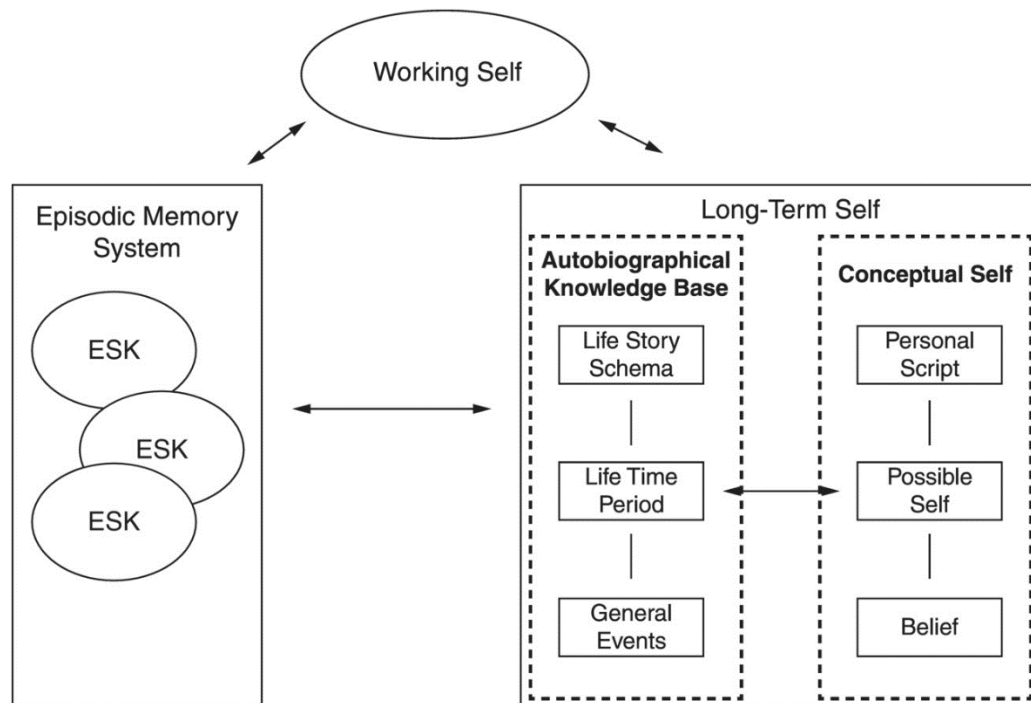
Figure 1 illustrates the Self-Memory System model, which proposes that the self is represented by three different components: the working self, the episodic memory system and the long-term self, all of which interact with each other (Conway & Pleydell-Pearce, 2000; Conway et al., 2004). These three components affect the construction of autobiographical memory (Conway et al., 2004). First, the working self is a complex set of motivations that are thought to direct cognition, emotion and behaviour in order to achieve certain immediate goals. However, the working self requires more permanent information about the self from the long-term self, which uses semantic memory to organise and evaluate personal experiences. The long-term self includes the autobiographical knowledge base where there are generally three components of autobiographical memory: lifetime story schema, lifetime periods and general events. An individual's personal life story consists of a hierarchy of these three components with the episodic memory system, which refers to event-specific knowledge, as an additional component. Besides the autobiographical knowledge base, the long-term self also encompasses

the conceptual self, which includes personal script, possible self and belief. One's sense of self affects one's behaviour in the past, the present and the future. It governs how people reflect on their own past behaviour—what they thought then, what they think now and whether they will repeat the behaviour in the future (Conway, 2005).

1.3 The development of autobiographical memory across the lifespan

Memory development is a lifetime process that extends throughout adulthood. In order to understand how autobiographical memories are constructed in emerging adulthood, it is important to first briefly consider how memory develops in childhood and adolescence (Nelson & Fivush, 2004). Sociocultural theory considers the different ways that parents share and construct memories with their children and how this is related to individual and cultural differences in autobiographical memory during childhood and adolescence (Reese & Neha, 2015 ;Wang & Fivush, 2005). Consistent with the ability to construct coherent narratives and meaning-making from autobiographical memories, autobiographical reasoning is used to develop in adolescence and to continue to develop into emerging adulthood (Habermas & de Silveira, 2008; Reese et al., 2011).

1.3.1 Infancy and infantile amnesia

Given the undeveloped language skills of infants and young children, the characteristics and duration of autobiographical memory in the early years of life have been considered difficult to investigate. Infants as young as six months can display immediate memory for an action, but do not retain the memory longer than 24 hours (Herbert et al., 2006). Between 9 and 16 months, infants demonstrate increasing long-term memory: they can retain the memory they have in a novel from four weeks to several months and reproduce a sequence of actions correctly as a two-step event in correctly ordered recall (Carver & Bauer, 1999; Carver & Bauer, 2001). Memory duration increases with age and there is evidence that semantic memory emerges before episodic memory. In the first two years of life, children also display memories of self

that are more semantic than episodic (Wheeler et al., 1997) and refer to more recent past experiences (Reese, 2002). For instance, very young children might remember what they ate earlier that day or recall that they went to the playground yesterday, but not remember events that occurred longer ago.

Most early studies on the emergence of episodic autobiographical memory relied on retrospective studies where adults were required to recall and date their earliest past experiences. Critically, these studies show that most early memories are not retained into adulthood: a phenomenon known as infantile amnesia (Willoughby et al., 2012). However, the mechanisms underlying infantile amnesia are contentious. Biological theories of infantile amnesia assert that inability of long-term memory is caused by the rapid rate of neuron production in childhood which contributes to the higher rate of forgetting and continue to be generated through adulthood (Frankland et al., 2013). In contrast, cognitive explanations of infantile amnesia suggest that the ability to maintain coherence memories depends on the development of language, theory of mind and sense of self via social interaction (Alberini & Travaglia, 2017). In support of at least partial socio-cognitive explanations, infantile amnesia has been noted to differ across cultures in terms of the age of earliest memories. Cultural beliefs and practices are the key mechanism of emerging language abilities in different timing, content and style in early personal memories (Wang, 2013). The results of studies of infantile amnesia indicate that few autobiographical memories were documented before the age of two, with most early memories of Western adults aged about three or four years. (Bruce et al., 2005; Rubin, 2000). It has also been found that Western people access earlier and more numerous childhood memories than Eastern people do (Wang, 2001). For example, Wang's (2011) study showed the average age of earliest childhood memory of Americans was 3.5 years, approximately six months earlier than for Chinese people. Westerners recalled a greater number of events than Eastern people (Oishi et al., 2011; Wang, 2009). Furthermore, there was an

interesting finding from a study of MacDonald et al. (2000) on early memory among people in New Zealand. Three different groups (New Zealand European, Asian and Māori adults) were studied. The Māori group recalled their earliest memories at 2.7 years old, which is earlier than those of New Zealand Europeans at 3.6 years old and Asians at 4.8 years old. Although Asians have strong family relationships, they do not have a strong oral cultural tradition like Māori people. The authors attribute these differences to cultural differences in socialisation practices.

1.3.2 Early and middle childhood

Studies have shown that preschool children already form and retain autobiographical memories (Fivush et al., 2011; Willoughby et al., 2012). Preschool children begin to recall and verbally describe unique experiences, demonstrating that they can reminisce from a personal, self-referential perspective. They also become more precise and reliable in identifying the time sequence of events and defending their choices (Fivush et al., 2011; Willoughby et al., 2012). Vygotsky's (1978) sociocultural theory posits that social interaction is a key mechanism for developing autobiographical memory across early and middle childhood. Simultaneously, it encourages children to develop a more realistic sense of self and to understand more about themselves (Fivush et al., 2011). When children begin the process of identity formation, they reflect on their memories and experiences and attempt to define a self-image that has consistency (Fivush, 2010; Fivush et al., 2011). Most of these early experiences result from social interactions.

Ideally, social interaction with supportive skill adults would allow children to observe and practice their skills to increase their capacity. The theory of scaffolding was first established by Vygotsky (1978) to support learners. It involves adults supporting tasks that are initially beyond the learner's ability. Scaffolding is one of the techniques that encourages and supports autobiographical memory development in early and middle childhood. In this case, the adults represent parents or caregiver, and learners imply their children. Over time,

scaffolding results in autobiographical memory development, as children co-remember tasks and events with prompting from a parent or caregiver (Andrews et al., 2019; Fivush, 2010; Fivush et al., 2011). They help them form and develop autobiographical memories; these may constitute tasks or events that elicit specific emotions and interests. Fivush (2010) stressed that adults play a key role in helping children to develop their increasing abilities to reminisce and talk about the past. The use of scaffolding helps to unfold a child's ability to verbally report past events and experiences, enabling and encouraging autobiographical memory development.

Elaboration is another technique that plays a significant role in autobiographical memory development and it characterises various aspects of parent–child interaction. Mothers encourage autobiographical memory development in preschool children (Fivush, 2010; Fivush et al. 2011). Studies have explored how an elaborative reminiscing style functions to facilitate autobiographical memory development in preschoolers. One study found that preschool children whose mothers reminisced in an elaborative fashion, thus facilitating autobiographical memory in those early years, could recall past events more fully and in more detail later in their development (Fivush et al., 2011). Given that reminiscing is bidirectional, children's development of language and narrative skills also supports deep encoding and the ability to reflect on memories (Martin, 2000). However, the input of parents remains central to influencing children's autobiographical memory (Fivush et al., 2011). Parents' elaborations function as a child's memory cues, shaping the development of their autobiographical memory. In the studies that contain European-American, French and Chinese participants, European-American participants have shown their intent focus on describing individual qualities and attributes focus tended to report earlier and more detailed childhood memories than Chinese participants who shared more on their relationships and social roles when describing their childhood memories (Wang, 2001, 2006). However, social interaction remains a central aspect in shaping children's autobiographical memory development.

1.3.3 Adolescence and emerging adulthood

The key attributes that differentiate adolescence and emerging adulthood from other life stages are identity exploration, instability, self-focus, and a realisation of new life possibilities (Arnett, 2004; Erikson, 1968). Despite the apprehension that adulthood begins at the age of 18, growing evidence using multiple social, emotional, and behavioural measures suggests that this period of late teens might also be considered as late adolescence. In this regard, it is a period that is similar to the beginning of puberty and gaining independence from parental authority which may differ across cultures. The stories that adolescents tell about their parents' early experiences also form an essential component of their own identities (Merrill & Fivush, 2016), particularly in some cultures. Merrill and Fivush (2016) found that intergenerational narratives shaped the wellbeing and identities of adolescents. Reese et al. (2017) explored adolescents' intergenerational narratives across three cultural groups in New Zealand (Chinese, Māori, and European), and found that Chinese and Māori adolescents are more likely to link their own identity with their family's than European adolescents. Reese et al. (2017) concurred with Merrill and Fivush (2016) that intergenerational narratives that encourage autobiographical memory significantly influence adolescents' wellbeing and identity formation. There are also cultural differences that affect how people respond to situations that are likely to produce emotional experience. For example, European Americans tend to adopt a first-person perspective, while East Asians are more likely to interpret the meaning of emotional situations from a third person point of view (Imada & Ellsworth, 2011).

Autobiographical memory skills that develop across adolescence and emerging adulthood are closely associated with the young person's growing sense of identity during this life period. First, as outlined in detail below, memory coherence and meaning making develop. Second, adolescence and young adulthood represent a time when autobiographical memory can recall more specific personal events. This has been called the period of the 'reminiscence

bump' (Janssen & Murre, 2008). Memories from the reminiscence bump are especially emotional, important and positive. There are also potential individual and cultural differences in how emotion regulation and emotion responding affects memory. For example, emotions encountered at the time of recollection have been found to influence individuals differently, depending on their capacity for emotion regulation (Pascuzzi & Smorti, 2017). Ready and Santorelli's (2016) study indicated that both young adults and older adults with less capacity for emotion regulation were less likely to remember the details of a strongly emotional life experience. Importantly, emotions are also influenced by narrators' beliefs and values. Western cultures emphasise personal happiness while Eastern cultures emphasise expectation (Ross & Wang, 2010), for example, and research also shows that European-American emerging adults recall their everyday life experiences with more positive than negative emotions. In contrast, Asian American participants recall their everyday life experiences with both positive and negative emotions (Oishi, 2002). In this regard, emotion regulation is considered to be an effect on how individual construct their life stories which may differ across cultures.

The present study focuses on two key individual differences that emerge across the adolescent years: memory coherence and meaning making—the ability to construct coherent narratives about personal past experience. Little research to my knowledge has considered the relationship between emerging adults' memory coherence and meaning-making: that is, not just what is remembered, when and where, but also how memory might represent emerging lessons and insights about oneself. In this study, therefore, I set out to consider how cultural differences might affect emerging adults' memory coherence and meaning making by studying participants from two cultures, Thai and Australian. I focus on the coherence with which individuals construct narratives of their own life events, and how they look for the meaning from their own past experience (McLean & Thorne, 2001; Reese et al., 2011).

1.4 Autobiographical memory coherence and meaning making

As autobiographical memory serves important functions for the self, constructing a coherent memory about a personal past experience requires that individuals can access specific information such as time, place, order of the events, as well as emotions and thoughts at the time in order to make meaning to oneself. Questions about culture are particularly relevant, as we know that the elements that make up individual's sense of self can vary among people from different cultures (Reese et al., 2017). In this research, autobiographical memory will be studied in two areas: 1) narrative coherence—how people construct their life stories and make sense to others, and 2) meaning-making in self-defining memories—how past experiences make meaning to the self.

1.4.1 Narrative coherence

The ability to remember and recall autobiographical memories begins in childhood (Nelson & Fivush, 2004), and continues to develop into adulthood (Habermas & de Silveira, 2008). According to Habermas and de Silveira (2008), there were significant age-related improvements between the ages of 12 and 20 in the narrative coherence despite controlling for differences in autobiographical reasoning training, intelligence, and biographical practices. The ability to construct a coherent autobiographical narrative is closely associated with psychological well-being. In the observational study of Waters and Fivush (2015), two autobiographical narratives of personally significant events about generic and recurring events were collected from 103 undergraduate students and coded for coherence and identity content. Coherent memories were associated with greater wellbeing, and this relationship was moderated by the narratives' relevance to identity (i.e. significant or generic, recurring events). Importantly, this moderation held even after controlling for narrative ability more generally. This study advances a coherent narrative identity hypothesis, which notes that specific events are a key factor on identity construction in emerging adulthood.

Within the development of cognition skills, narrative coherence is based on two common approaches: the story grammar schema approach and the linguistic approach. First, in the story grammar approach, coherence is addressed in story recall or in fictional storytelling and is goal-directed to conceptualise personal narrative coherence (Nicolopoupu, 2008). Second, the linguistic approach serves two primary functions: 1) reference—providing information where and when a specific event took place, and 2) evaluation—including nonverbal and verbal expressions of emotion, emphasis, perspective and insight (Labov, 1972; Labov & Waletzky, 1997, cited in Reese et al., 2011, p. 427). Labov's theory of narrative structure (1972) is based on what, where, when and why the event is important. In English language, temporal order is one of the fundamental rules of English grammar (Berman, 2017). In contrast, in a language such as Thai, there is no such prescriptive requirement of the grammar. Thus, situational aspects can play a more important role in the expression of temporal narrative order (Winskel, 2007). As well as differences in grammar among languages, story schemas may not capture some important aspects of development change in coherence because many personal experiences lack explicit goals. Therefore, this study focuses on the coherent personal narrative scheme that was developed by Reese et al. (2011), which is based on a linguistic approach. These authors posited three dimensions of personal narrative coherence: 1) contextual coherence, which describes where and when an event takes place, 2) chronological coherence, which is the temporal ordering of narrative, that is, the arrangement of events in time, and 3) thematic coherence, which is how meaning-making is derived from the narrative. The dimensions help to demonstrate how narrative coherence development occurs across different ages.

Narrative coherence development starts at the early childhood stage and becomes more complex throughout adolescence and adulthood. Children at two years of age demonstrate narrative coherence by relating a group of distinct thoughts with changes of topic and theme.

Three-year-olds are a little more advanced. They tell stories while often making random and illogical connections between the topic, theme, setting, and characters. At four years children are more advanced and can tell narratives that include characters, logical topics and settings. They also demonstrate competency in linking cause and effect relationships in their narratives. Preschoolers aged five years create stories that include all relevant elements, including characters, theme, topic, and setting. Some sense of logic is demonstrated in those stories, even if listeners must add additional knowledge to make total sense from these stories. Thus, narrative coherence develops in complexity with age (Fivush et al., 2011).

1.4.2 Autobiographical meaning making

Meaning-making can be distinguished as an important component of narrative construction. McAdams (1996, 2008) introduced a framework for personality in which narrative identity captures individuals' efforts to understand life and also to understand themselves as individuals. The model specifies five levels of personality: genetics, traits, character adaptations, identity and life story. All these are permeated by the influence of culture. In McAdams's framework, personality traits form a framework, adaptations fill in details, and stories give rise to meaning. In particular, the narrative identity model seeks to investigate narratives that encompass personal themes and intentions to reflect an emotionally coherent self. The study by McLean et al. (2008) argue that the creation of meaning through narrative is another measure of constructing causal coherence. In this approach, individuals seek to extract the meaning and lessons drawn from the evolving story of their past to understand how they became the current self. It depends on how individuals reflect the self and link the past experiences to apply meaning or lessons to a particular life event. McLean and Breen (2009) also recognise various meanings that can be achieved between narratives as it is mainly due to the depth of self-reflection and its impact to a particular life event. The narrative meaning-

making capacity usually increases from the age of 16 (McLean & Breed, 2009), which may vary across culture.

Several pieces of evidence suggest an increase in meaning making capacity with age. As children grow older, they become more able to express their thoughts, interests, and emotions verbally. Fivush et al. (2011) maintains that becoming more verbal and increasingly expressing thoughts and emotions highlights the significance of autobiographical memory events. With age, one develops an increased capacity for autobiographical reasoning and coherence. This explains why adolescents have a better autobiographical memory than children in the early and middle stages of childhood (Habermas, Negele & Mayer, 2010). Habermas and Bluck (2000) further argued that cognitive abilities, including working memory and abstract reasoning, improve or increase with age.

Individuals look for meaning when they reflect on the implications of a specific event. This reflection can be expressed in two different forms: 1) lessons learned— by recognising the knowledge drawn from different situations and used in giving direction to future behavior, and 2) insights—referring to the meaning which is gained from experience and its impact can be applied broadly into different areas of an individual's life (McLean & Thorne, 2003). The distinguishing difference between the lessons learned and insight gained is that the former is a more definite concept while the latter is more abstract and incorporates advanced reasoning (Grysman & Hudson, 2010). Habermas (2011) posited that insight would emerge during mid-adolescence, but not earlier than that period. Fivush (2010), Grysman and Hudson (2010) also report studies that provide more significant knowledge on the development of coherence and insight across adolescence. These authors maintained that capacity for coherence and meaning-making increase with age and that adolescents create coherent narratives due to their more developed autobiographical memories. Similarly, these authors concluded that understanding or insight into life events and experience emerges in adolescents due to their more advanced

autobiographical memory, which allows them not only to reminisce about events but to assign meaning to them. Moreover, increased capacity to abstract meaning in adolescence is caused from more sophisticated reasoning ability. During formal operational stage (age 12 – adulthood), adolescence begins to gain the ability to make a reason abstractly and think logically about choices and consequences (Inhelder & Piaget, 1958; Sanders, 2013).

1.5 Autobiographical memory development and culture in emerging adulthood

Over the past two decades, the framework of individualism and collectivism has become increasingly popular as a predictive and explicative paradigm of diversity in personality (Triandis & Suh, 2002). Triandis (2001) introduced a concept of Horizontal Vertical Individualism Collectivism (HVIC) to better understand the differences in people's situational attributions within the context of hierarchy and equality. The culture of many South East and East Asian people reflects vertical collectivism. The current study will focus on Thai culture which is predominantly collectivist in nature, and Australian culture, which is predominantly identified as individualist. Thais live in an interdependent cultural context where the concept refers to how each individual is integrated in a network of family relationships and obligations (Takano, 2016). Thais cooperate with their in-groups and are often willing to sacrifice themselves for the group and to accept inequalities as a consequence; Australians, on the other hand, desire to be unique, to be autonomous, and they strive for equality (Triandis, 2001; Triandis & Suh, 2002), Australians are more likely to live in an independent cultural context, where people live and drive their lives independently and where activities, skills and experiences are geared toward developing a sense of self-reliance and independence (Triandis, 1995). It is important to note that this is not true of all Australians. In fact, Indigenous Australians value social cohesion (Nile & Van Bergen, 2015), and all such distinctions must be seen as a continuum. However, these broad cultural patterns influence life choices and decisions. In Thai culture, for example, education is regarded as a key to social mobility and

to providing for family and community. Thus, educational choices and pathways are often based on social pressures and family expectations (Buchmann & Hannum, 2001). In Australian culture, education is viewed more commonly as a means for acquiring knowledge and skills (Forrest et al., 2017). As a consequence, Australians' educational choices more commonly reflect an interest in learning for its own sake (Buchmann & Hannum, 2001). With the difference in their perspective, Thais and Australians may focus on different thing when they talk about their past experience. For example, Thais may talk about family and education while Australians tend to talk about themselves and their perspective more.

Of potential relevance to memory construction and reminiscing, cultural differences in communication are also observed. When making attributions and communicating, Thais are more likely to focus on context than content (Triandis, 2001). One study on high-low context cultures of Asian and Western individuals (Hall & Hall, 1990), for example, found that Asian people are very homogenous with regard to sociocultural contexts, and so they do not need background information each time they interact with others. In contrast, Western people need to refresh background information each time they meet others (Hall & Hall, 1990). It is important to note that these trends are necessarily broad within cultures, and do not take account of variation within each geographical area. In addition, within any country there are often diverse social groups and immigration patterns. The strength of these trends towards collectivism or individualism may vary both between and within social groups. An important question for memory researchers, therefore, is whether broad trends towards collectivism or individualism matter for memory and content. In the light of evidence about cultural differences in personality, perspective and communicating, it is clear that culture is a significant element to be considered in this study.

It is important to note that other cultural differences of relevance to memory are also possible. For example, previous studies have shown that empathy is shaped by culture (Cassels

et al., 2010; Trommsdorff et al., 2007), with Westerners showing more empathic concern but less personal distress than Easterners in response to others' negative emotions. This is important, as empathy and memory in emerging adulthood are also related (Tani et al., 2014). Tani et al. (2014) found that Italian students aged 18 to 26 years who had greater memories of their friendships were also likely to be more empathic. While this work does not suggest causality, some authors believe that autobiographical memory may create templates that enable a person to understand others' perspectives (Bluck & Alea, 2009; Bluck et al., 2013). Given that notions of self and others differ between individuals and across cultures, and that the precise relationship between memory and empathic responding is not known, it was important to control for possible individual or cultural differences in empathic responding in the current study.

1.6 The present study

This research draws on previous studies of developmental, cognitive and sociocultural perspectives of autobiographical memory to investigate how Thai and Australian emerging adults might recall past life events differently. The study's main focus is on how cultural differences might affect memory coherence and meaning-making. It yields findings about how culture contributes to differences in narrative development and identity development. Participants were 40 Thai emerging adults aged 18–24 residing in Thailand and 40 Australian emerging adults aged 18–24 residing in Australia. 'The Life Story' interview by McAdams (2008) was adapted for use. Participants from both groups were asked to recall salient life high-point, low-point and turning-point memories. Memory data was coded using the Narratives Coherence Coding Scheme by Reese et al. (2011) for memory coherence (how others understand their stories) and the Meaning Making in Self-Defining Memory scheme by McLean & Thorn (2001) was used to assess meaning making (how the life story makes sense to oneself) during emerging adulthood. In addition, cultural differences in individualism and

collectivism, dispositional empathy and emotion management were also captured. Those elements were used to determine the extent to which possible cultural differences predict differences in memory. This model is illustrated in Figure 2 below:

Figure 2. Theoretical variables
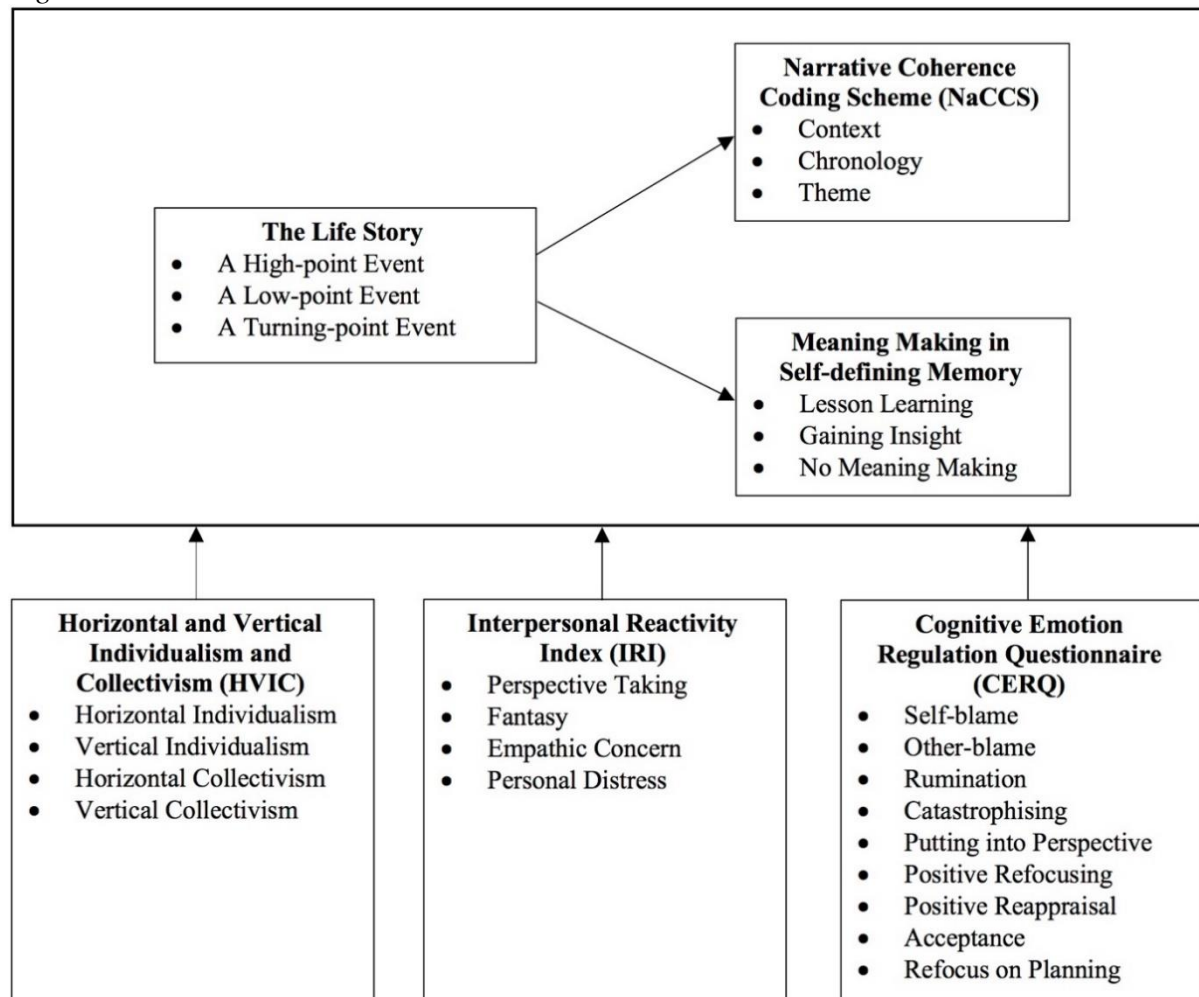
1.7 Research hypotheses

1.7.1 Narrative coherence in emerging adulthood across culture

The ability to construct coherent narratives about one's own past experience was found to be better when associated with a more elaborative memory. Previous research has found Western people to be more elaborative typically than Eastern people. Moreover, Eastern people live in a high-context culture where people tend to communicate with more assumed knowledge. Therefore, they may not need their memory stories to be especially coherent in order to convey meaning to others. In contrast, Australians lives in a low-context culture where people are direct and explicit and rely less on shared norms and understandings. My first hypothesis predicted that Australian emerging adults when compared to Thai emerging adults would have higher scores on all three aspects of narrative coherence; context, chronology and theme.

1.7.2 Meaning making in emerging adulthood across cultures

Autobiographical memories often concern distinctive personal experiences and can help an individual to distinguish themselves from others as they seek to achieve a sense of self. However, Western people tend to recall their past experience focusing on the self while for people from other cultures, such as Eastern cultures, social status and relationship networks are more central to emerging self-identity. Research also indicates that Western people have more elaborative memories, giving more potential for meaning-making to occur and their focus on the individual allows more opportunity to extract personally relevant meaning. Thus, my second hypothesis is that Australian emerging adults would have higher scores on lesson learning and gaining insight, and Thai emerging adults would have higher scores on no meaning-making when compared to the Australian emerging adults.

2. Method

2.1 Research design

A quantitative method was used in this research. Data was collected from Thai and Australian emerging adults by means of an online Qualtrics survey. First, using adapted questions from 'The Life Story' interview (McAdams, 2008), participants were asked to remember three salient life events: a high-point, a low-point and a turning-point. These memory narratives were then coded by using two quantitative coding schemes: (1) the Narrative Coherence Coding scheme (NaCCS, Reese et al., 2011), to capture coherent memories that make sense to others, and (2) Meaning Making in Self-Defining Memory scheme (McLean & Thorne, 2001), designed to capture memories that make sense to oneself. To compare Thai and Australian participants' memory coherence and meaning making, a MANOVA was run. The HVIC, the Interpersonal Reactivity Index (IRI) and the Cognitive Emotion Regulation Questionnaire (CERQ) were administered and entered to determine the extent assess cultural differences. We considered whether to enter them as covariates, but elected not to as culture was our phenomenon of interest.

2.2 Participants

Young Thai adults aged 18 to 24 residing in Thailand and young Australian adults aged 18 to 24 residing in Australia were recruited to participate in the study. A total of 136 young adults (54 Thais, 82 Australians) began the online survey. However, 44 participants (14 Thais, 30 Australians) were excluded from the analyses due to non-completion of the online survey and 12 Australians were excluded as they did not follow task instructions (i.e., they completed the cultural questions but did not complete the 'Life Story' interview).

Eighty participants were thus included in the final analyses, 40 who identified as Thais (20 females, 20 males) and 40 who identified as Australians (23 females, 17 males) (refer to

Table 1 for demographic information). The participants were 40 young Thai adults (M = 20.6 years, SD = 2.5 years) and 40 young Australian adults (M = 21.1 years, SD = 1.7 years). With regards to ethnicity, first language, spoken language at home and place of birth were asked. Thai is the first language and spoken language at home for all Thai participants and that all of them were born in Thailand. On the other hand, 37 Australian participants have English as the first language and three of them have other languages as the first language (1 Chinese, 1 Korean and 1 Tamil)[1]. All Australian participants were born in Australia and all are non-Indigenous Australians. All Thai participants completed the survey in Thai and responses from those participants were translated into English. All translations were certified by AECC Global (see Appendix 5). All Australian participants completed the survey in English.

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[1] The results of this current study were not affected by Australian participants whose first language is not English.

Table 1. Frequency and percentages of respondents according to demographic information

Demographic information of respondents	Thais		Australians	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
1. **Gender**				
Female	20	50.0%	27	67.5%
Male	20	50.0%	13	32.5%
2. **Age**				
18	14	35.0%	1	2.5%
19	5	12.5%	9	22.5%
20	2	5.0%	6	15.0%
21	2	5.0%	5	12.5%
22	2	5.0%	11	27.5%
23	8	20.0%	5	12.5%
24	7	17.5%	3	7.5%
3. **Education**				
Less than High School diploma	1	2.5%	0	0.0%
High school	13	32.5%	12	30.0%
Some college	4	10.0%	12	30.0%
Bachelor degree	22	55.0%	15	37.5%
Graduate degree	0	0..0%	1	2.5%
4. **First language**				
English	0	0.0%	37	92.5%
Thai	40	100.0%	0	0.0%
Other	0	0.0%	3	7.5%
5. **Spoken Language at home**				
English	0	0.0%	40	100.0%
Thai	40	100.0%	0	0.0%
6. **Country of birth**				
Australia	0	0.0%	40	100.0%
Thai	40	100.0%	0	0.0%

2.3   Materials

The online survey had three components: one focusing on demographics, one using an adapted

version of 'The Adapted Life Story' interview; and one capturing the cultural syndromes of

individualism and collectivism, personality and emotion management using the Horizontal and

Vertical Individualism and Collectivism (HVIC) scale, the IRI and the CERQ. Note that the

survey was created in English initially, for both Thai and Australian participants. In order to

make it easy to understand for Thais and coding purpose, the survey in English version and all

responses in Thai language were translated using the forward-backward method, certified by

AECC Global (Appendix 5). In this method, I translated forward English-Thai for the survey

and Thai-English for all responses in Thai. Then, AECC team translated backward and

compared the two version.

2.3.1 Demographics

At the beginning of the survey, all participants were asked to fill in the respondents'

demographics information, covering gender, age, education level, first language and spoken

language at home and place of birth. (See Table 1.)

2.3.2 The Life Story interview (McAdam, 2008)

'The Life Story' interview (McAdam, 2008) is a face-to-face interview, designed to capture

the story of an individual's life experience, including parts of the past as one remembers it and

the future as one imagines it. It has been widely used in research on autobiographical memory

and narrative identity. In order to capture quality content, the interview was adapted to present

as a writing task, where participants were able to save their data and return to complete it later.

Note that the full life story interview includes eight key scenes (high point, low point, turning

point, positive childhood memory, negative childhood memory, vivid adult memory, mystical

experience and wisdom event). I administered the three key scenes that most relevant to this

study: a high point, low point, and turning point. These scenes represent specific and

emotionally salient moments in life, and may therefore have stronger coherence and meaning than other memories. These three memories are commonly used in research (see Adler et al., 2017 for a discussion of this).

To capture a high-point (e.g. a scene, episode or moment in one's life that stands out as an especially positive experience), participants were asked to recall the high-point scene of their entire life, or else an especially happy, joyous, exciting, or wonderful moment in the story. To capture a low-point (a scene, episode or moment in one's life that stands out as an unpleasant experience), participants were asked to think back over their entire life and identify a scene that stands out as a low point. Consistent with the approved ethics protocols, the participants were told to ensure that the event they shared would only be one that they are happy to write about and if recounting the low-point memory started to cause distress, they might stop the survey at any time. To capture a turning-point (a scene, episode or moment in one's life that marked an important change in one's life story), participants were asked to identify certain key moments that stand out as turning points episodes that marked an important change in their life. The order of the memories within the writing task was counter-balanced across participants. Each memory was marked to "*describe what happened, where and when, who was involved, and what you were thinking and feeling*", with a minimum number of 150 characters required. Note that Thai participants were able to select their language (English or Thai) on the link. For coding and analysing purposes, "The Life Story" interview responses in Thai were translated to English, certified by AECC Global (Appendix 5).

2.3.3 Horizontal and Vertical Individualism and Collectivism (Triandis & Gelfland, 1998)

The HVIC is a 16-item scale designed to measure four dimensions of collectivism and individualism. There are four subscales, each including four items. These subscales are as follows: (1) *Horizontal Individualism* (HI) refers to one who sees the self as fully autonomous,

and believes that equality between individuals is the ideal (e.g., 'My personal identity, independent of others, is very important to me'); (2) *Vertical Individualism* (VI) refers to one who sees the self as fully autonomous, but recognises that inequality will exist among individuals and accepting this inequality (e.g., 'When another person does better than I do, I get tense and aroused'); (3) *Horizontal Collectivism* (HC) refers to one who sees the self as part of a collective who perceives all the members of that collective as equal (e.g., 'I feel good when I cooperate with others'); and (4) *Vertical Collectivism* (VC) refers to one who sees the self as a part of a collective and who is also willing to accept hierarchy and inequality within that collective (e.g., 'Family members should stick together, no matter what sacrifices are required'). All items are answered on a 9-point scale, ranging from 1 (never or definitely no) and 9 (always or definitely yes). Each dimension's items are summed separately to create HI, VI, HC, and VC scores. The general permission of this scale is given by the published journal to reuse the original material on the condition that it is used for non-commercial purposes with appropriate credit given. The original scales of the ten cultural orientations reported Cronbach's alpha coefficients range from .72 to .85 (Triandis & Gelfand, 1998). The reports of reliabilities of the IRI confirmed these figures for the English and Thai version: HI = .69, VI = .69, HC = .77 and VC = .79.

2.3.4 Interpersonal Reactivity Index (IRI; Davis, 1980, 1983)

The Interpersonal Reactivity Index (IRI; (Davis, 1980, 1983) was used in measuring dispositional empathy that identifies empathy as having separate but related constructs which are measured individually. These variations in empathy are also linked to autobiographical memory (Cassel et al., 2010; Tani et al., 2014). The index has 28 items and 4 subscales. These subscales, each containing seven items, are: (1) *Perspective Taking (PT)*, which assesses the tendency to spontaneously adopt the psychological point of view of others (e.g., 'I sometimes try to understand my friends better by imagining how things look from their perspective'), (2)

Fantasy (FS), which gauges respondents' proclivities to transpose themselves imaginatively into the feelings and actions of fictitious characters in books, movies or plays (e.g., 'I daydream and fantasise, with some regularity, about things that might happen to me); (3) *Empathic Concern (EC)*, which assesses 'other-oriented; feelings of sympathy and concern for unfortunate others (e.g., 'Sometimes I don't feel very sorry for other people when they are having problems'); and (4) *Personal Distress (PD)* which measures 'self-oriented' feelings of personal anxiety and unease in tense interpersonal settings (e.g., 'I sometimes feel helpless when I am in the middle of a very emotional situation'). All items were self-assessed on a 5-point Likert scale, ranging from 'Does not describe me well' to 'Describes me very well'. Each dimension's items are summed separately to create scores for perspective taking, fantasy, empathic concern and personal distress. The general permission of this scale is given by the published journal to reuse the original material on the condition that it is used for non-commercial purposes with appropriate credit given. Cronbach's alpha coefficients range from .70 to .78 (Davis, 1980). The reports of reliabilities of the IRI confirmed these figures for the English and Thai version: PT = .36, FS = .42, EC = .31 and PD = .45.

2.3.5 Cognitive Emotion Regulation Questionnaire (CERQ; Garnefski et al., 2002)

The CERQ is a 36-item questionnaire measuring the specific cognitive emotion regulation strategies participants used in response to negative life events. Cognitive emotion regulation refers to the conscious, cognitive control of emotionally arousing information during or after an adverse event (Garnefski et al., 2001). Nine conceptually distinct subscales, each with four items, measure different cognitive emotion regulation strategies: (1) *Self-blame* refers to *the causal attribution of negative events to oneself* (e.g., 'I feel that I am the one who is responsible for what has happened'); (2) *Other-blame* refers to *the causal attribution of adverse events to others* (e.g., 'I feel that others are responsible for what has happened'); (3) *Rumination* refers to *overthinking emotions and thoughts associated with negative events* (e.g., 'I often think

about how I feel about what I have experienced.'); (4) *Catastrophising* refers to *explicitly emphasising the consequences of negative events* (e.g., 'I often think that what I have experienced is much worse than what others have experienced'); (5) *Putting into perspective* refers to *relativising a negative event by considering the impact over time* (e.g., 'I think that other people go through much worst experiences'); (6) *Positive refocusing* refers to *keeping attention on pleasant thoughts after the occurrence of negative events* (e.g., 'I think of something nice instead of what has happened'); (7) *Positive reappraisal* refers to *finding the silver lining by creating a positive meaning to negative events* (e.g., 'I think that I can become a stronger person as a result of what has happened'); (8) *Acceptance* refers to *accepting and not changing a negative situation or the emotions caused* (e.g., 'I think that I have to accept that this has happened'); and (9) *Planning* refers to *thinking about what steps to take and how to handle the negative event* (e.g., 'I think about how I can best cope with the situation')*.* Participants are asked to respond on a 5-point Likert scale, ranging from 1 (almost never) to 5 (almost always), with scores being obtained by calculating the mean scores for each particular subscale. Higher subscale scores indicate greater use of a specific cognitive strategy. Each subscale's items are summed separately to create scores for self-blame, other-blame, rumination, catastrophising, putting into perspective, positive refocusing, positive reappraisal, acceptance, and planning. The general permission of this scale is given by the published journal to reuse the original material on the condition that it is used for non-commercial purposes with appropriate credit given. Cronbach's alpha coefficients range from .72 to .85 (Garnefski, et al., 2001). The reports of reliabilities of the CERQ confirmed these figures for the English and Thai version: self-blame = .83, other-blame = .81, rumination = .75, catastrophizing = .86, putting into perspective = .78, positive refocusing = .79, positive reappraisal = .83, acceptance = .71 and planning = .81.

2.4 Procedure

Following approval from the institutional ethics committee, quota sampling was used to recruit both Thai and Australian participants, with 40 young adults in each group. The recruitment advertisements were created separately for Thai and Australian participants; in English for the Australians, with identical details other than for nationality (see Appendix 3). For Thai participants, the recruitment advertisement was translated from English to Thai and translation was certified by AECC Global. At the outset, both Thai and Australian recruitment advertisements were posted on Facebook and Twitter, including a QR code and a URL link. Quota sampling was successfully completed for Thai participants within one week, while the recruitment process for Australian participants was slower. To recruit more Australian participants, the recruitment advertisement for Australians was printed and posted on notice boards, with permission, at Macquarie University campus and around the Sydney CBD. This strategy resulted in participant numbers rising to 23 females and 17 males within two months. Any potential participant who was interested in participating in the online survey was asked to scan the QR code or follow the URL link to directly complete the online survey in Qualtrics.

The information and consent forms were distributed at the beginning of the survey to establish which participants consented to participate in the study. Those who agreed were taken to the survey proper, while those who declined exited the survey. The consent form advised potential participants that their identity would be anonymised and that they could leave the survey at any time with no obligation. Finally, the participants who responded to all questions were offered a $15 gift voucher to redeem at a preferred store (Myer, Coles, Big W, Kmart, Target, Amazon and iTunes) for Australian participants and a THB300 gift voucher to redeem at their preferred store (Central, Robinson, Big C, Lotus, Amazon and iTunes) for Thai participants. Participants who accepted this offer were asked to enter their email address, which

was then separated from the associated data to ensure anonymity. Vouchers were emailed to all participants who left a valid email address.

2.5 Memory coding

Participants' memories of their life high-points, low-points and turning-points, captured from the life story interview, were coded using the NaCCS (Reese et al., 2011) aimed to capture coherent memories that would make sense to others. This scheme captures three aspects of narrative coherence: context, chronology and theme. First, contextual coherence includes specific information regarding time and location of the event. Second, chronological coherence refers to the order in which different actions of the remembered event took place; this might be clearly specified or, if not, able to be inferred through temporal references within the narrative. Finally, theme coherence refers to whether the narrative includes a clear topic that is introduced, elaborated upon and eventually resolved. For each variable, a score of 0 to 3 is given where 0 indicates no coherence/no information provided and 3 indicates high coherence (NaCCS; Reese et al., 2011, p.436) (see Table 2).

Table 2. Scoring criteria for the Narrative Coherence Coding Scheme (NaCCS; Reese et al., 2011, p. 436).

Criteria	Context	Chronology	Theme
Level 0	No information about time or location provided.	Narrative consists of a list of actions with minimal or no information about temporal order.	The narrative is substantially off topic and/or characterised by multiple digressions that make the topic difficult to identify. No attempt to repair digressions.
Level 1	Partial information is provided; there is mention of time or location at any level of specificity.	Naïve listener can place some but not most of the events on a timeline. Fewer than half of the temporally relevant actions can be ordered on a timeline with confidence.	A topic is identifiable and most of the statements relate to it. The narrative may include minimal development of the topic through causal linkages, or personal evaluations and reactions, or elaborations of actions.
Level 2	Both time and place are mentioned but no more than one dimension is specific.	Naïve listener can place between 50%–75% of the relevant actions on a timeline but cannot reliably order the entire story from start to finish with confidence.	The narrative substantially develops the topic. Several instances of causal linkages, and/or interpretations, and/or elaborations of previously reported actions are included.
Level 3	Both time and place are mentioned and both are specific.	Naïve listener can order almost all (> 75%) of the temporally relevant actions. This includes cases in which the speaker marks deviations from temporal order or repairs a violated timeline.	Narrative includes all the above and a resolution to the story, or links to other autobiographical experiences including future occurrences, or self-concept or identity. Resolution brings closure and provides new information.

2.6 Meaning-making in self-defining memory

Participants' memories of their life high-points, low-points and turning-points from the life story interview were coded by using the Meaning Making In Self-Defining Memory scheme (McLean & Thorne, 2001). In this scheme, a score of 0 to 1 is given, where 0 indicates no lesson learning/no gaining insight provided and 1 indicates a presence or absent on the basis of the event. When a score of 0 is given to both lesson learning and gaining insight, no meaning making is scored at 1. This scheme captures three aspects of meaning making: (1) *Lesson Learning* is defined as references to having learned a tangible and specific lesson from the memory that has implications for subsequent behaviour in similar situation. For example, a daughter learns not to shout at her mother, (2) *Gaining Insight* is coded if the reporter inferred a meaning from the event that apply to large areas of individual's life in which it is a new insight for the narrator. This typically refers to transformations of self or a relationship. For instance, the daughter that learns not to shout and she also drew more general meaning from the event, e.g., that she could not control herself as she had an anger management problem, and (3) *No Meaning Making* is coded on the basis of how well the narrative supports understanding; that is, the reporter has made no effort to explain the meaning of the event.

2.7 Inter-rater reliability

Once all coding was completed by the first author, inter-rater reliability was calculated. To determine inter-rater reliability, a second coder individually coded 25% of all memories (randomly selected) for narrative coherence and meaning making. Inter-rater reliability for narrative coherence was then calculated using the interclass Pearson's correlation. Excellent reliability was shown in the NaCCS (.98 for context, .92 for chronology and .93 for theme). Given the binary nature of the meaning making variables, Cohen's Kappa was used to calculate the reliability. Excellent reliability was shown in meaning making (.90 for Lesson Learning, .81 for Gaining Insight and .83 for no meaning making). Data analysis was based on coding by the primary coder.

2.8 Data Analysis

All the data collected were checked and input into a computer program SPSS. The demographic information was analysed using descriptive statistics.

Next, two-factorial MANOVA tests were used to understand cultural differences between the Thai and Australian samples. Nationality (Thai, Australia) and gender (female, male) were entered as between-subjects variables, with age and education as covariates. The dependent variables were entered in each test: (1) the HVIC (horizontal individualism, vertical individualism and horizontal collectivism), (2) the IRI (perspective taking, fantasy, empathic concern and personal distress) and (3) the CERQ (self-blame, other-blame, rumination, catastrophising, putting into perspective, positive refocusing, positive reappraisal, acceptance and refocusing on planning). When the normality and equal variance assumptions were satisfied, the difference in mean in the two groups were tested using a F test. To determine whether the test was statistically significant, the F value was used. The p-value of $\leq .05$ was considered to be statistically significant.

Finally, repeated measures ANOVA tests were used to examine cultural differences in memory coherence and meaning making from three salient life events: a high-point, a low-point and a turning-point. Nationality (Thai, Australian) and gender (female, male) were entered as within-subjects variables, with valence (high-point, low-point and turning-point) as between-subjects variables. Age and education were entered as covariates. The dependent variables were entered in each test: (1) narrative coherence (context, chronology and theme) and (2) meaning making (lesson learning, gaining insight and no meaning making). When the normality and equal variance assumptions were satisfied, F test was used to determine whether the test was statistically significant. The p-value of $\leq .05$ was considered to be statistically significant. Significant interactions were followed by simple effect.

3. Results

The focus of this study was to identify cultural differences in emerging Thai and Australian adults' autobiographical life memories. The aim was to illuminate cultural differences in memory coherence (context, chronology and theme) and meaning making (lesson learning and gaining insight). Thai and Australian participants were each asked to provide salient high-point, low-point and turning-point memories, while the cultural syndromes of individualism and collectivism, dispositional empathy and emotion management were also assessed.

3.1 Preliminary analyses

The preliminary analyses aimed to highlight cultural differences between the Australian and Thai participant groups. To do so, three sets of 2 x 2 MANOVAs were run. Nationality (Thai, Australian) and gender (female, male) were entered into each MANOVA as between-subjects variables, with age and education entered as covariates.

In the first MANOVA, the dependent variables included the HVIC (horizontal individualism, vertical individualism, horizontal collectivism and vertical collectivism). There

was a significant main effect of nationality on VC, $F = 4.16$, $p = .05$, $\eta_p^2 = .05$. Thai emerging adults had higher scores on the VC subscale of the HVIC than Australian emerging adults (Thais $M = 7.25$, $SD = 1.23$; Australians $M = 6.64$, $SD = 1.66$). There was no significant main effect of nationality on horizontal individualism, vertical individualism and horizontal collectivism. Moreover, there was no main effect for gender on HI, $F = .21$, $p = .65$, $\eta_p^2 = <.01$, VI, $F = .19$, $p = .67$, $\eta_p^2 = <.01$, HC, $F = .01$, $p = .94$, $\eta_p^2 = <.01$, and VC, $F = .42$, $p = .52$, $\eta_p^2 = <.01$. Finally, there was no nationality x gender interaction on HI, $F = .80$, $p = .38$, $\eta_p^2 = .01$, VI, $F = 2.96$, $p = .09$, $\eta_p^2 = .04$, HC, $F = .23$, $p = .63$, $\eta_p^2 = <.01$, and VC, $F = 1.07$, $p = .30$, $\eta_p^2 = .01$.

Table 3. Total culture variation scores for Thai and Australian emerging adults

Cultural variations	Subscales	Thais			Australians		
		Female M (SD)	Male M (SD)	Total M (SD)	Female M (SD)	Male M (SD)	Total M (SD)
HVIC	Horizontal individualism	7.48 (1.21)	7.10 (1.24)	7.29 (1.23)	6.99 (1.18)	7.10 (1.18)	7.04 (1.17)
	Vertical individualism	6.48 (1.32)	6.00 (1.62)	6.24 (1.48)	5.32 (1.76)	6.09 (1.66)	5.64 (1.74)
	Horizontal collectivism	7.31 (1.33)	7.26 (1.15)	7.29 (1.23)	7.24 (1.53)	7.10 (1.27)	7.18 (1.41)
	Vertical collectivism	7.24 (1.39)	7.26 (1.09)	7.25 (1.24)	6.87 (1.47)	6.32 (1.89)	6.64 (1.66)
IRI	Perspective taking	2.52 (.34)	2.44 (.58)	2.48 (.47)	2.84 (.40)	2.800 (.46)	2.83 (.42)
	Fantasy	2.76 (.60)	2.71 (.53)	2.73 (.56)	2.95 (.69)	2.93 (.51)	2.94 (.62)
	Empathic concern	2.51 (.40)	2.51 (.46)	2.51 (.43)	2.99 (.37)	2.87 (.41)	2.94 (.38)
	Personal distress	2.60 (.32)	2.62 (.40)	2.61 (.36)	2.92 (.38)	2.90 (.324)	2.91 (.35)
CERQ	Self-blame	2.59 (.89)	2.54 (.75)	2.56 (.81)	2.84 (.86)	3.07 (.76)	2.94 (.82)
	Other-blame	3.30 (.87)	3.31 (.58)	3.31 (.73)	3.91 (.83)	3.28 (.92)	3.64 (.91)
	Rumination	2.35 (.83)	2.26 (.64)	2.31 (.73)	2.54 (.90)	2.93 (.82)	2.71 (.88)
	Catastrophising	3.30 (1.01)	3.46 (.97)	3.38 (.98)	3.78 (.98)	3.01 (1.11)	3.46 (1.10)
	Putting into perspective	2.93 (.68)	2.58 (.76)	2.75 (.73)	2.59 (1.06)	2.63 (1.15)	2.61 (1.08)
	Positive refocusing	2.30 (.87)	2.56 (.92)	2.43 (.89)	3.33 (.95)	2.68 (.62)	3.05 (.88)
	Positive reappraisal	1.71 (.69)	1.75 (.59)	1.73 (.63)	2.63 (.86)	2.14 (.76)	2.42 (.85)
	Acceptance	2.23 (.62)	2.09 (.60)	2.16 (.60)	2.53 (.85)	2.87 (.85)	2.68 (.86)
	Refocus on planning	2.41 (.73)	2.03 (.65)	2.22 (.71)	2.66 (.80)	2.16 (.94)	2.45 (.89)

In the second MANOVA, the dependent variables included the IRI (perspective taking, fantasy, empathic concern and personal distress). There was a significant main effect of nationality on perspective taking, $F = 9.83$, $p < .01$, $\eta_p^2 = .12$, empathic concern, $F = 22.11$, $p < .01$, $\eta_p^2 = .23$, and personal distress, $F = 12.49$, $p < .01$, $\eta_p^2 = .14$. Australian emerging adults had higher scores on all three subscales; perspective taking (Thais *M = 2.48, SD = .47;* Australians *M = 2.83, SD = .42*), empathic concern (Thais *M = 2.51, SD = .43*; Australians *M = 2.94, SD = .39*) and personal distress (Thais *M = 2.61, SD = .36*; Australians *M = 2.91, SD = .35*). There was no significant main effect of nationality on the fantasy scale. Moreover, there was no main effect for gender on perspective taking, $F = .22$, $p = .65$, $\eta_p^2 = <.01$, fantasy, $F = .02$, $p = .89$, $\eta_p^2 = <.01$, empathic concern, $F = .32$, $p = .57$, $\eta_p^2 = <.01$, and personal distress, $F = .01$, $p = .93$, $\eta_p^2 = <.01$. Finally, there was no nationality x gender interaction on perspective taking, $F = <.01$, $p = .97$, $\eta p2 = <.01$, fantasy, $F = <.01$, $p = .96$, $\eta_p^2 = <.01$, empathic concern, $F = .50$, $p = .48$, $\eta_p^2 = <.01$, and personal distress, $F = .18$, $p = .67$, $\eta p^2 = <.01$.

In the third MANOVA, the dependent variables included the CERQ (self-blame, other-blame, rumination, catastrophising, putting into perspective, positive refocusing, positive reappraisal, acceptance and refocusing on planning). There was a significant main effect of nationality on self-blame, $F = 4.39$, $p = .04$, $\eta_p^2 = .06$, rumination, $F = 5.23$, $p = .03$, $\eta_p^2 = .07$, positive reappraisal, $F = 14.22$, $p < .01$, $\eta_p^2 = .16$, and acceptance, $F = 9.21$, $p < .01$, $\eta_p^2 = .11$. Australian emerging adults had higher scores on all four of these subscales than Thai emerging adults: self-blame (Thais *M = 2.56, SD = .81*; Australians *M = 2.94, SD = .81*), rumination (Thais *M = 2.31, SD = .73*; Australians *M = 2.71, SD = .88*), positive reappraisal (Thais *M = 1.73, SD = .63*; Australians *M = 2.42, SD = .85*) and acceptance (Thais *M = 2.16, SD = .60*; Australians *M = 2.67, SD = .86*). Moreover, there was no main effect for gender on self-blame, $F = .34$, $p = .56$, $\eta_p^2 = .01$, other-blame, $F = 3.07$, $p = .08$, $\eta_p^2 = .04$, rumination, $F = .91$, $p = .34$, $\eta_p^2 = .01$, catastrophising, $F = 1.78$, $p = .19$, $\eta_p^2 = .02$, putting into perspective, $F = .58$, p

$= .45$, $\eta_p^2 = .01$, positive refocusing, $F = .89$, $p = .35$, $\eta_p^2 = .01$, positive reappraisal, $F = 1.93$, $p = .17$, $\eta_p^2 = .03$, and acceptance, $F = .85$, $p = .36$, $\eta_p^2 = .01$. However, there was significant main effect on positive refocusing, $F = 8.55$, $p = .01$, $\eta_p^2 = .10$, moderated by a significant nationality x gender interaction, $F = 5.63$, $p = .02$, $\eta_p^2 = .07$. Simple effects showed that Australian females ($M = 3.33$, $SD = .95$) had higher scores on positive refocusing than Australian males ($M = 2.68$, $SD = .62$). In contrast, Thai males ($M = 2.56$, $SD = .92$) had higher scores on positive refocusing than Thai females ($M = 2.30$, $SD = .87$). Finally, there was no nationality x gender interaction on self-blame, $F = .39$, $p = .53$, $\eta_p^2 = .01$, other-blame, $F = 2.68$, $p = .11$, $\eta_p^2 = .04$, rumination, $F = 1.12$, $p = .29$, $\eta_p^2 = .02$, catastrophising, $F = 4.16$, $p = .04$, $\eta_p^2 = .05$, putting into perspective, $F = 1.00$, $p = .32$, $\eta_p^2 = .01$, positive refocusing, $F = .13$, $p = .72$, $\eta_p^2 = <.01$, positive reappraisal, $F = 2.39$, $p = .13$, $\eta_p^2 = .03$, and acceptance, $F = 1.07$, $p = .30$, $\eta_p^2 = .01$.

3.2 Narrative coherence in emerging adults across cultures

It was hypothesised that young Australian adults would have higher memory coherence than Thai emerging adults. More specifically, it was hypothesised that Australian emerging adults would show greater chronological, thematic and contextual coherence. To test this hypothesis a mixed design 2 x 2 x (3) repeated measures ANOVA test was run. Nationality (Thai, Australian) and gender (female, male) were entered as between-subjects variables, with valence (high-point, low-point and turning-point) as within-subjects variable, and age and education as covariates. The three dimensions of narrative coherence (chronology, theme and context) were each entered as dependent variables. Significant interactions were followed by simple effect analyses.

Chronology. There was a significant main effect of nationality, $F = 4.88$, $p = .03$, $\eta_p^2 = .06$, moderated by a significant nationality x valence interaction, $F = 8.53$, $p < .01$, $\eta_p^2 = .10$. Simple effect analysis showed that Thai participants expressed greater chronological coherence

than Australian participants in recalling their low-point memories (Thais $M = 1.65$, $SD = .89$; Australians $M = 1.08$, $SD = 1.07$, $p < .05$), and turning-point memories (Thais $M = 1.70$, $SD = .79$; Australians $M = 1.05$, $SD = .90$, $p < .05$). Chronological coherence in high-point memories did not differ between Thai ($M = 1.27$, $SD = .78$) and Australian ($M = 1.38$, $SD = 1.01$) participants, $p > .05$. No other effects were significant, all Fs < 2.95 and ps $> .06$.

Theme. There was no significant influence of nationality, $F = .32$, $p = .57$, $\eta_p^2 = .00$. However, there was a significant interaction between valence x nationality, $F = 7.19$, $p < .01$, $\eta_p^2 = .09$. Although Australian and Thai participants did not show differences in coherence overall, there was a difference in their pattern of coherence across various memories. For Thai participants, thematic coherence was higher in turning-point memories, $M = 1.93$, $SD = .89$, than in high-point memories, $M = 1.10$, $SD = .67$, $p < .05$. Coherence in low-point memories fell in the middle, $M = 1.50$, $SD = .75$, and there was no difference in coherence between high-point and tuning-point memories, ps $> .05$. For Australian participants, there were no significant differences in thematic coherence between high-point, $M = 1.43$, $SD = .90$, low-point, $M = 1.40$, $SD = 1.03$, and turning-point, $M = 1.40$, $SD = .96$ memories, ps $> .05$. The three-way interaction between nationality, gender and valence also approached significance, $F = 3.03$, $p = .05$, $\eta_p^2 = .04$; however, no follow-up simple effects were significant (all ps $> .05$). No other effects were significant, all Fs < 1.71 and ps $> .19$.

Context. There was no significant main effect of nationality on participants' contextual coherence, $F = 2.48$, $p = .12$, $\eta_p^2 = .03$, and no interaction of nationality with valence, $F = 1.32$, $p = .27$, $\eta_p^2 = .02$, or gender, $F = 1.41$, $p = .25$, $\eta_p^2 = .02$. No other effects were significant (all Fs $< .011$ and ps $> .88$).

Table 4. Total NaCCS scores for Thai and Australian emerging adults

Narrative Coherence Subscale	Gender	Thais			Australians		
		High-point M (SD)	Low-point M (SD)	Turning-point M (SD)	High-point M (SD)	Low-point M (SD)	Turning-point M (SD)
Context	Female	.70 (.87)	.60 (.60)	.70 (.57)	1.09 (1.20)	.74 (1.01)	.87 (.97)
	Male	.85 (.59)	.65 (.49)	.40 (.50)	1.24 (1.30)	.65 (.86)	.65 (1.00)
	Total	.78 (.73)	.62 (.54)	.55 (.55)	1.15 (1.23)	.70 (.94)	.77 (.97)
Chronology	Female	1.25 (.85)	1.90 (.79)	1.90 (.79)	1.35 (1.11)	1.09 (1.24)	1.26 (1.01)
	Male	1.30 (.73)	1.40 (.94)	1.50 (.76)	1.41 (.87)	1.06 (.83)	.76 (.66)
	Total	1.27 (.78)	1.65 (.89)	1.70 (.79)	1.38 (1.01)	1.08 (1.07)	1.05 (.90)
Theme	Female	1.10 (.72)	1.50 (.76)	2.05 (.89)	1.65 (.98)	1.43 (1.16)	1.30 (.93)
	Male	1.10 (.64)	1.50 (.76)	1.80 (.89)	1.12 (.69)	1.35 (.86)	1.53 (1.01)
	Total	1.10 (.67)	1.50 (.75)	1.93 (.89)	1.43 (.90)	1.40 (1.03)	1.40 (.96)

3.3 Meaning making in self-definition memories in emerging adults across cultures

It was hypothesised that Australian emerging adults would have higher memory meaning making than Thai emerging adults, and receive higher scores for 'lesson learning' and 'insight'. To test this hypothesis, a mixed design, 2 x 2 x (3) repeated measures ANOVA test was run. Nationality (Thai, Australian) and gender (female, male) were entered as the between-subjects variables, with valence (high-point, low-point and turning-point) as a within-subjects variable; age and education were entered as covariates. Three dimensions of meaning making (lesson learning, gaining insight and no meaning making) were entered as dependent variables. Significant interactions were followed by simple effect.

Lesson learning. There was no significant main effect of nationality on lesson learning, $F = 2.81$, $p = .10$, $\eta_p^2 = .04$, and no interaction between valence x nationality, $F = 2.22$, $p = .11$, $\eta_p^2 = .03$. No other effects were significant, all Fs < 0.49 and ps > .61.

Gaining insight. There was a significant main effect of nationality, $F = 17.04$, $p < .01$, $\eta_p^2 = .19$, moderated by a significant nationality x valence interaction, $F = 3.24$, $p = .04$, $\eta_p^2 = .04$. Australian participants showed significantly greater insight than Thai participants in high-point memories (Australians $M = .50$, $SD = .51$; Thais $M = .10$, $SD = .30$) and low-point memories (Australians $M = .50$, $SD = .51$; Thais $M = .10$, $SD = .30$), both ps < .05. There was no difference between Thai and Australian participants for turning-point memories (Thais $M = .55$, $SD = .50$; Australians $M = .67$, $SD = .47$); however, $p < .05$. No other effects were significant, all Fs < 2.60, all ps > .08.

No meaning making. There was a significant main effect of nationality on participants' propensity to not engage in meaning making, $F = 6.00$, $p = .02$, $\eta_p^2 = .08$, with Thai participants more likely to engage in 'no meaning making' than Australian participants. Thai participants had significantly higher scores in no meaning making than Australian participants for their high-point memories (Thais $M = .73$, $SD = .45$; Australians $M = .42$, $SD = .50$), $p < .05$, and low-point memories (Thais $M = .50$, $SD = .51$; Australians $M = .27$, $SD = .45$), $p < .05$. Scores for no meaning making in turning-point memories did not differ between Thai ($M = .13$, $SD = .34$) and Australian ($M = .15$, $SD = .36$) participants, $p > .05$. The interaction between valence x nationality also approached significance, $F = 2.94$, $p = .06$, $\eta_p^2 = .04$; however, no simple effects were significant (all ps > .05). No other effects were significant (all Fs < 2.22, all ps > .11).

Table 5. Total meaning making in self-defining scores for Thai and Australian emerging adults.

Meaning making in self-defining	Gender	Thais			Australians		
		High-point M (SD)	Low-point M (SD)	Turning-point M (SD)	High-point M (SD)	Low-point M (SD)	Turning-point M (SD)
Lesson learning	Female	.35 (.49)	.60 (.50)	.95 (.23)	.48 (.51)	.61 (.50)	.87 (.34)
	Male	.20 (.41)	.30 (.47)	.75 (.44)	.53 (.51)	.65 (.50)	.71 (.47)
	Total	.28 (.45)	.45 (.50)	.85 (.36)	.50 (.51)	.62 (.49)	.80 (.41)
Gaining insight	Female	.15 (.37)	.05 (.23)	.60 (.51)	.48 (.51)	.57 (.52)	.74 (.45)
	Male	.05 (.23)	.15 (.37)	.50 (.51)	.53 (.51)	.41 (.51)	.59 (.51)
	Total	.10 (.30)	.10 (.30)	.55 (.50)	.50 (.51)	.50 (.51)	.67 (.47)
No meaning making	Female	.65 (.49)	.35 (.49)	.05 (.24)	.43 (.51)	.22 (.42)	.13 (.34)
	Male	.80 (.41)	.65 (.49)	.20 (.41)	.41 (.51)	.35 (.49)	.18 (.39)
	Total	.73 (.45)	.50 (.51)	.13 (.34)	.42 (.50)	.27 (.45)	.15 (.36)

4. Discussion

This study was designed to extend linguistic, cognitive and sociocultural research on autobiographical memory across culture by exploring Thai and Australian emerging adults' autobiographical memories. It was specifically designed to examine cultural differences in emerging adults' memory coherence and meaning making. The first hypothesis predicted that across salient life story memories, Australian emerging adults would show greater narrative coherence than Thai emerging adults. This hypothesis was not supported. Thai emerging adults showed greater chronological coherence than Australian emerging adults, particularly for low and turning-point memories, and showed a different pattern of findings across memories for thematic coherence. No differences in contextual coherence were observed. The second hypothesis predicted that Australian emerging adults would have higher memory meaning making than Thai emerging adults. This hypothesis was partially supported. Australian emerging adults had greater insights than Thais, particularly for high and low-point memories,

and Thais were more likely to engage in no meaning making. There was no differences in lesson learning. Overall, therefore, Thais had higher coherence than Australians, whereas Australians had meaning making than Thais. In both cases, however, results were more nuanced than expected.

4.1 Narrative coherence

The first hypothesis predicted that Australian emerging adults when compared to Thai emerging adults would score higher on all three aspects of narrative coherence; context, chronology and theme, as coded using the NaCCS (Reese et al., 2011). Some people develop the ability to construct narrative coherence earlier than others and some continue to develop into adulthood (Habermas & Bluck, 2000). However, what appears to be coherent for one culture may not appear to be coherent for another. The study results showed that in terms of chronological coherence there was a significant difference between Australian and Thai emerging adults. In contrast to the hypothesis, Thai emerging adults displayed higher chronological coherence when compared to Australian emerging adults: particularly for low-point and turning-point memories. Even though the greater score shown by Thais is consistent with their greater HVIC on vertical collectivism where people tend to be less coherent, it is possible that cultural differences are becoming less prominent as globalisation integrates cultural norms (Niffenegger et al., 2006). This may particularly be the case for emerging adults, who are more susceptible to Western influence than older generations. This explanation cannot account for the greater coherence in Thai participants than Australians, however. Another explanation is that young Thai adults may supply less chronological detail when talking to each other, but could provide significantly more when they knew they were taking part in a cross-cultural study. Although the recruitment advertisement they viewed was in Thai, and sought Thai participants, the study information did mention that Australians were also participating. As mentioned earlier, Thais have often been described as homogenous with regard to

sociocultural contexts that they assume no background information needed every time when they interact with others. However, Thailand is increasingly westernised and learning English is compulsory in schools. Thai students know that English grammar has the fundamental rules of narrative structure based on temporal order, despite no such prescriptive requirement in Thai language (Berman, 2017). Therefore, Thai participants might write their life stories in manner that will be viewed favourably by more global audiences.

In terms of thematic coherence, Australian and Thai emerging adults did not differ in overall results. However, they differed in their pattern of coherence across different memories. For Australian participants, there was no significant differences in thematic coherence among memories. In contrast, Thai participants scored highest in thematic coherence for turning-point memories. Turning-point memories are one of the self-development triggers that might be more important than other memories (Fivush, 2011). Indeed, turning-point memories relate to episodes in which someone undergoes a substantial change; they therefore promote self-understanding more than other memories such as high-points or low-points. It is possible that everyday life differences in Thailand might cause Thai emerging adults to experience reflections on self at a later point in development to Australians, thus giving greater thematic coherence on turning-point memories. In other words, Thai emerging adults might be in a period of understanding something new about the self or face with the decision that they need to take to the next step of their life while Australian emerging adults might have been though during late adolescence. For example, most Thais focus on their study without thinking of gaining work experience because their parents support them financially until they graduate. According to the working-age population (aged 15 years or more) of Thai people presented by the National Statistical Office of Thailand (2021), 65.9 percent of people in this group were employed in labour market. However, there were 76.6% of people aged 15-24 years and 23.4% of adults aged 25 years or more have no working experience at all. Moreover, among 57 million

people in the working-age group, 4.47 million people are studying which accumulated for 7.48%. On the other hand, Australians balance work and study commitments. In 2020, 83.7% of Australians aged 15-24 years attending full-time education were engaged in the work force with only 16.3% not working and studying concurrently (Australian Bureau of Statistics, 2021).

The final analysis on narrative coherence measured contextual coherence. There was no significant difference found between Australian and Thai emerging adults nor any interactions. Consistent with the development of temporal reconstructive ability, adolescents can provide time and place in their narrative due to a complex understanding of contextual information (Friedman & Lyon, 2005; Friedman et al., 2009). Cultural differences might still be expected, however, even if the Austrian and Thai study does not support this analogy. The lack of significant differences between Australian and Thai adults may be due to the study instructions themselves, with participants were asked to mention both time and place specifically. With such scaffolding, both Thai and Australian participants may have scored higher in contextual coherence. This finding is surprising, as differences in the amount of context needed have been noted in cross-cultural studies of communication. However, Thai and Australian participants were asked to provide the information on time and place, which may have been scaffolded for all participants, leading to the finding of no cultural difference.

4.2 Meaning-making

The second hypothesis was that Australian emerging adults would have higher memory meaning making with greater 'lesson learning' and 'gaining insight' than Thai emerging adults, and Thai emerging adults would score higher in 'no meaning making' than Australian emerging adults. The hypothesis that Australian emerging adults would have higher scores on 'lesson learning' than Thai emerging adults was not supported. However, the hypothesis prediction that Australian emerging adults would be higher on 'gaining insight' and Thai

emerging adults would be higher on 'no meaning making' was conditionally supported. Both findings were moderated by interactions with memory valence.

Interestingly, lesson learning was found to be more prevalent across both Thai and Australian emerging adults' memories. 'Lesson learning' is a more tangible concept than 'gaining insight' (McLean, 2003), and it may be that Thai participants find lesson learning a more comfortable and culturally coherent form of meaning making than insight. Both cultures could express the lessons learned in concrete terms, related to the specific event. For instance, reported lessons included learning that people will succeed when they try hard enough, that cheating in the exam does not lead to positive outcomes, and that it is important to learn whom to trust. However, Australians were more likely to also demonstrate insights they have gained in both abstract and concrete terms.

Further analysis showed that Australian emerging adults scored significantly higher in 'gaining insight' and lower on 'no meaning making' scores across both high-point and low-point memories. As mentioned earlier, Australians tend to focus more on individuals, not on groups, and they tend to understand themselves and emerge into adulthood earlier than Thais. Unlike lesson learning, the concept of gaining insight is more abstract; for example, reported insights included gaining a better understanding of how the world changes when losing a loved one and how good decision making relates to future success. However, similar memories from different respondents were coded differently. For instance, when recalling a loved one's death, one person's autobiographical reasoning led them not to connect to one's own mortality, but rather to convey the difficult emotions experienced at that moment. The results for insights were supported by personal meaning emerging from emotions, motivations and goals that are constructed in situations of social interaction. The greater insight shown by Australians is consistent with their greater CERQ scores in self-blame, rumination, positive reappraisal and acceptance, indicating a tendency to focus on emotion in both positive and negative ways.

Consistent with the difference in cognitive development across cultures, preliminary results indicated that Australians are more empathetic and have greater capacity to regulate emotion than Thais.

The study results showed that both Thais and Australians gained insight, with the highest scores for turning-point memories. Such memories represent particularly influential and meaningful experiences in that there is a transformation of the self in the present or the future (Pillermer, 1998). Indeed, the relationship between meaning making of turning-point events and identity status in emerging adults showed that those scoring low in identity exploration tended to display less narrative meaning when relating their personal turning-point events (McLean & Pratt, 2006). However, both Thai and Australian emerging adults scored high in turning-point memories and that indicated that they both are in high level of identity exploration.

4.3 Limitations and future research

The main purpose of this study was to study how culture influences emerging adults' autobiographical memory in both style and content. However, the study did present certain limitations, particularly regarding its design. First, the Life Story interview was adapted from McAdams (2008). Three questions out of eight asked for written answers rather than verbal responses in a face-to-face interview. It is possible that written and spoken memories will differ in emotional detail or elaboration. Indeed, this is one additional possibility to explain why coherence was quite high in Thai participants as well as Australian participants. Perhaps, the shared understanding expected between Thai participants does not translate into written form. Second, a cross sectional design was used in this study. By using a longitudinal study, it would be possible to track identify changes over time and determine their influence on memory development and expression. Finally, it is possible that the participants are likely to be less individualistic to write their stories even though it is noted to be confidential.

Future research will continue to identify additional cultural variables responsible for cultural differences in autobiographical memory. The ethnicity of Australian sample was collected in this study by asking for participants' first language, spoken language at home and place of birth. While all participants were born in Australia, we did not capture parents' country of birth. Because it is common for Australians to be second generation, born in Australia to parents born overseas, some Australians might therefore have multiple cultural influences at home. Thus, parents' place of birth could be considered for future research. Besides, it is likely that young Thai adults are becoming more westernised, and this may have contributed to the study's unexpected findings for coherence. Future research could use that as a hypothesis to consider whether memory coherence varies across generations in Eastern cultures. Moreover, future research could consider why chronological coherence was higher in Thai participants than Australian participants but contextual coherence was not. Finally, the practical implications of cultural differences in memory recall could be considered in particular social domains, such as everyday social interaction. Such research could improve the efficacy of social intervention in real life situations and also facilitate our understanding of cultural diversity in the field of human cognition and behaviour.

5. Conclusion

Findings from the present study indicate similarities in both the cultures (Thai and Australian) and at the individual level between cultures. They demonstrate that Thais and Australian have almost similar contextual coherence abilities. Similarly, they show that Australian and Thai emerging adults demonstrated related and similar lesson learning potentials. The findings further indicate significant differences between the cultures: Thai and Australian. Thai emerging adults displayed greater chronological coherence than Australian emerging adults, especially for low and turning-point memories. They also showed varying patterns across

memories, especially thematic coherence capabilities In addition, the findings direct that Australian emerging adults have a higher meaning making capability than Thai emerging adults. As indicated by the results, Australian emerging adults have greater insights than Thais, especially for high and low-point memories. The results identify that Thai are less likely to engage in meaning making. The findings indicate massive differences than similarities between the cultures (Thai and Australian). In this study, parents and teachers could profitably include narrative coherence and narrative meaning prompts and scaffolding to help children develop self-identity. This would allow young people to connect their past experiences to the future as well as acknowledging cultural differences in which they exist as individuals.

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Appendix 1: Ethics approval

Human Sciences Subcommittee
Macquarie University, North Ryde
NSW 2109, Australia

MACQUARIE
University

09/07/2020

Dear Associate Professor Van Bergen,

Reference No: 52020636417485
Project ID: 6364
Title: Autobiographical Memory in Thai and Australian Emerging Adults: A Cross-Cultural Study

Thank you for submitting the above application for ethical review. The Human Sciences Subcommittee has considered your application.

I am pleased to advise that ethical approval has been granted for this project to be conducted by Associate Professor Penelope Van Bergen, and other personnel: Dr Rebecca Andrews, MISS Nattakarn Somhom.

This research meets the requirements set out in the National Statement on Ethical Conduct in Human Research 2007, (updated July 2018).

Standard Conditions of Approval:

1. Continuing compliance with the requirements of the National Statement, available from the following website:
   https://nhmrc.gov.au/about-us/publications/national-statement-ethical-conduct-human-research-2007-updated-2018.

2. This approval is valid for five (5) years, subject to the submission of annual reports. Please submit your reports on the anniversary of the approval for this protocol. You will be sent an automatic reminder email one week from the due date to remind you of your reporting responsibilities.

3. All adverse events, including unforeseen events, which might affect the continued ethical acceptability of the project, must be reported to the subcommittee within 72 hours.

4. All proposed changes to the project and associated documents must be submitted to the subcommittee for review and approval before implementation. Changes can be made via the Human Research Ethics Management System.

The HREC Terms of Reference and Standard Operating Procedures are available from the Research Services website: https://www.mq.edu.au/research/ethics-integrity-and-policies/ethics/human-ethics.

It is the responsibility of the Chief Investigator to retain a copy of all documentation related to this project and to forward a copy of this approval letter to all personnel listed on the project.

Should you have any queries regarding your project, please contact the Faculty Ethics Officer.

The Human Sciences Subcommittee wishes you every success in your research.

Yours sincerely,

Dr Naomi Sweller

Chair, Human Sciences Subcommittee

The Faculty Ethics Subcommittees at Macquarie University operate in accordance with the National Statement on Ethical Conduct in Human Research 2007, (updated July 2018), [Section 5.2.22].

Appendix 2: Information for Interview participants (Recruitment)

PARTICIPANTS NEEDED

FOR AN ONLINE STUDY INVESTIGATING

Autobiographical Memory
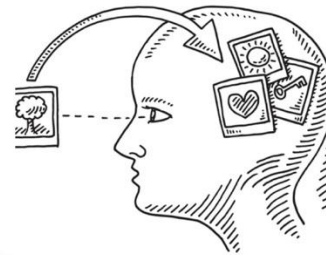
Complete in your own home!
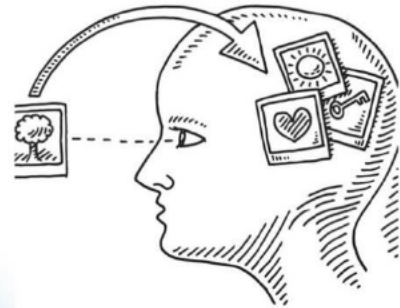
You will be asked to share three memories from your own "life story", and to complete a short survey.

Are you eligible?

- **18 – 24 years old**
- **Thais residing in Thailand**

We are looking for 40 participants in total. The task may take 20-30 minutes, depending on how long you choose to spend writing your memories (most participants typically enjoy this task). To thank you for your time, you will be offered a THB 300 gift voucher from Central, Robinson, Big C, or The Mall (your choice)

Please contact

If you are interested in taking part, please email Nattakarn to obtain survey and payment details. If you wish to decline participation, you can do so at any time without reason or consequence.

MACQUARIE University
SYDNEY·AUSTRALIA

รับสมัครผู้เข้าร่วมทำวิจัย

งานวิจัยนี้ศึกษาเกี่ยวกับ
ความจำเชิงอัตชีวประวัติ
Autobiographical Memory

ตอบแบบสอบถามออนไลน์เองที่บ้าน!

MACQUARIE
University
SYDNEY-AUSTRALIA
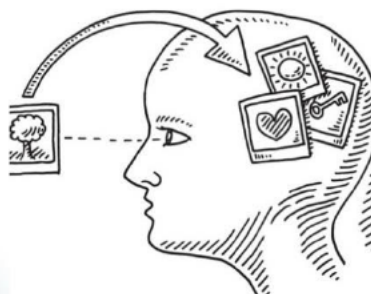
ผู้เข้าร่วมทำวิจัยเพียงเล่าเรื่องราวประสบการณ์ชีวิตจริง
สามเหตุการณ์ และตอบแบบสอบถามสั้น ๆ เท่านั้น

Are you eligible?

- อายุ 18 – 24 ปี
- สัญชาติไทยและอาศัยอยู่ในประเทศไทย

ต้องการผู้เข้าร่วมทำวิจัย 40 ท่าน
การตอบแบบสอบถามออนไลน์นี้จะใช้เวลาประมาณ 20-30 นาที ขึ้นอยู่กับว่าผู้เข้าร่วมต้องการเขียนประสบการณ์มากน้อยเพียงใด
เพื่อเป็นการขอบคุณในการเสียสละเวลาตอบแบบสอบถามทั้งหมด ผู้เข้าร่วมจะได้รับบัตรของขวัญมูลค่า ฿300

Please contact

หากสนใจเข้าร่วมทำการวิจัยตอบแบบสอบถามออนไลน์ สามารถติดต่อได้ทางอีเมล
หากท่านต้องการยกเลิกการตอบแบบสอบถาม ท่านสามารถยกเลิกได้โดยไม่มีเงื่อนไขใด ๆ ทั้งสิ้น

Appendix 3: Consent

(DIGITAL PICF–TO APPEAR AT BEGINNING OF QUALTRICS SURVEY. PLEASE NOTE THAT PARTICIPANTS WHO TICK YES ARE CONSENTING TO PARTICIPATE, AND WILL BE TAKEN TO THE SURVEY PROPER. PARTICIPANTS WHO TICK NO WILL BE TAKEN TO A SCREEN THAT THANKS THEM FOR THEIR TIME)

How do Thai and Australian in emerging adulthood think about everyday past events?
Participant Information and Consent Form

What is this study?

You are invited to participate in a research study conducted by researchers at Macquarie University. The purpose of this study is to better understand and differentiate how young Thai and Australian people remember and share events from their lives.

Who are we?

My name is Nattakarn Somhom, and I am a master degree student from the School of Education, Macquarie University. My research is conducted under the supervision of Chief Investigator Penny Van Bergen and the co-supervision of Dr Rebecca Andrews in the School of Education, Macquarie University. This thesis is conducted in partial-fulfilment of a Master of Research.

What will you be asked to do?

During this period you will be asked to fill in an online survey. The survey will first ask you some demographic information (e.g. age, gender). Then, you will then be asked to recount three significant memories from your life: one 'high-point', one 'low-point' and one 'turning-point' memory about an important change of your life. The low-point memory should not be one that will be upsetting for you to recall: rather, it should be a memory you are happy to recount to us. Last, it will prompt you to answer three scale questionnaires about your culture, personality and emotional management.

How long will it take?

There will be two surveys, Survey A and Survey B, which will take no longer than 30 minutes. After completing Survey A, you can decide to complete Survey B right after or you can complete it in the next day. If you do not choose to participate, there is no obligation to take, or to complete, the survey. If you wish to withdraw at any time, you may do so by exiting the internet browser.

Are there any benefits to participating?

Participating in this survey helps us to better understand how and why young people remember different events from their lives. You're taking part in a real scientific study on memory, which we know is linked to wellbeing and problem solving in everyday life. We're really grateful for your participation.

Is my data confidential?

Yes it is! Although results from the study may be published in an international journal or presented at a conference, it will not be possible to identify individual participants. All digital data will also be kept safe on a password-protected computer. Please note that all Qualtrics data is securely stored in California.

Can I find out more?

Of course! You are always welcome to ask questions of our research team via email (nattakarn.somhom@students.mq.edu.au). If you would like a copy of the results, please email us with your email address.

If you agree to participate in this study, please tick the 'yes' box below. You will then be taken to the survey proper. If you do not want to take part, please tick 'no'. This will exit the survey.

[ ] Yes, I am happy to take part in this study. *I understand the information above and have asked any questions that I want to ask. I know that I am allowed to withdraw from the study at any time.*

[ ] No, I do not want to take part in this study.

The ethical aspects of this study have been approved by the Macquarie University Human Research Ethics Committee. If you have any complaints or reservations about any ethical aspect of your participation in this research, you may contact the Committee through the Director, Research Ethics & Integrity (telephone (02) 9850 7854; email (ethics@mq.edu.au)Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.

Appendix 4: Survey

(The following will be entered into Qualtrics.)
<u>Survey A</u>
General Information (ข้อมูลทั่วไป)

Gender (เพศ):   ( ) Female (เพศหญิง)

( ) Male (เพศชาย)

             ( ) Other (อื่นๆ)

Age: _____   Year of Birth: _____
อายุ   ปีเกิด

Education (ระดับการศึกษา)   ( ) Less than HS diploma (ต่ำกว่าระดับมัธยมศึกษา)

                               ( ) High school (ระดับมัธยมศึกษาปีที่ 6)

                               ( ) Some college (ระดับอนุปริญญา/ปวส.)

                               ( ) Bachelor degree (ระดับปริญญาตรี)

                               ( ) Graduate degree (ปริญญาโท)

Is English your first language? Yes / No
ภาษาอังกฤษคือภาษาแรกของคุณใช่หรือไม่

If no, please specify:_____
ถ้าไม่ใช่กรุณาระบุ

What language/s do you speak at home? _____
คุณพูดภาษาใดที่บ้าน

In what country were you born?
คุณเกิดที่ประเทศอะไร

( ) Thailand (ประเทศไทย)

( ) Australia (ประเทศออสเตรเลีย)

Are you Aboriginal or Torres Strait Islander? (Yes / No / Prefer not to say)
( ) Other _____

1. High-Point (Counter-balanced order with Low-Point memory)

Please describe a scene, episode, or moment in your life that stands out as an especially positive experience. This might be the high-point scene of your entire life, or else an especially happy, joyous, exciting, or wonderful moment in the story. Please describe this high-point scene in detail. What happened, when and where, who was involved, and what were you thinking and feeling? Also, please say a word or two about why you think this particular moment was so good and what the scene may say about who you are as a person.

อธิบายฉากตอนหรือช่วงเวลาในชีวิตของคุณที่โดดเด่นเป็นประสบการณ์เชิงบวกโดยเฉพาะ นี่อาจเป็น ฉากสำคัญของชีวิตคุณหรือไม่ก็เป็น ช่วงเวลาที่มีความสุขสนุกสนานตื่นเต้นหรือน่าอัศจรรย์เป็นพิเศษ ในเรื่องนี้ โปรดอธิบายรายละเอียดฉากจุดสูงนี้ เกิดอะไรขึ้นเมื่อไหร่และที่ ไหนเกี่ยวข้องกับใครและคุณ กำลังคิดและรู้สึกอย่างไร โปรดสาเหตุที่คุณคิดว่าช่วงเวลานี้ดีมากและฉากนี้อาจพูดถึงว่าคุณเป็นใครในฐานะอะไร ในเรื่องราว

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

2. Low-Point (Counter-balanced order with High-Point memory)

Thinking back over your entire life, please identify a scene that stands out as a low point. Please make sure this low point is one you are happy to tell us about. If the low point you are thinking of might upset you, please select a different low point that you are happy to tell us about. Once you have selected this event, I want you to write about it. Even though this event is a low point for you, I would appreciate your providing as much detail as you can about it. What happened in the event, where and when, who was involved, and what were you thinking and feeling? Also, please say a word or two about why you think this particular moment was so bad and what the scene may say about you or your life. Again, please ensure this event is one you are happy to write about. If recounting your low-point memory does start to cause distress, you may stop at any time."

ลองนึกย้อนไปทั้งชีวิตโปรดระบุฉากที่โดดเด่นเป็นจุดตกต่ำ ที่คุณยินดีที่จะบอกเรา หากจุดต่ำสุดที่คุณ คิดว่าอาจทำให้คุณเสียใจโปรดเลือกจุด ต่ำอื่นที่คุณยินดีที่จะบอกเรา แม้ว่าเหตุการณ์นี้จะเป็นจุดที่ต่ำ สำหรับคุณ แต่ทางทีมวิจัยขอขอบคุณที่ให้รายละเอียดมากที่สุดเท่าที่จะทำได้ เกิด อะไรขึ้นในเหตุการณ์ ที่ไหนเมื่อไรใครเกี่ยวข้องบ้าง คิดและรู้สึกอย่างไร นอกจากนี้โปรดพูดเกี่ยวกับสาเหตุที่คุณคิดว่าช่วง เวลานี้เลวร้ายมาก และสิ่งที่ฉากนั้นอาจพูดเกี่ยวกับตัวคุณหรือชีวิตของคุณ อีกครั้ง หากการเล่าความทรงจำจุดต่ำของคุณเริ่มทำให้เกิดความทุกข์คุณอาจหยุดได้ทุก เมื่อ

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3. Turning point

In looking back over your life, it may be possible to identify certain key moments that stand out as turning points--episodes that marked an important change in you or your life story. Please identify a particular episode in your life story that you now see as a turning point in your life. If you cannot identify a key turning point that stands out clearly, please describe some event in your life wherein you went through an important change of some kind. Again, for this event please describe what happened, where and when, who was involved, and what you were thinking and feeling. Also, please say a word or two about what you think this event says about you as a person or about your life.

ลองนึกย้อนไปทั้งชีวิตโปรดระบุฉากที่โดดเด่นเป็นจุดตกต่ำ ที่คุณยินดีที่จะบอกเรา หากจุดต่ำสุดที่คุณ คิดว่าอาจทำให้คุณเสียใจโปรดเลือกจุด ต่ำอื่นที่คุณยินดีที่จะบอกเรา แม้ว่าเหตุการณ์นี้จะเป็นจุดที่ต่ำ สำหรับคุณ แต่ทางทีมวิจัยขอขอบคุณที่ให้รายละเอียดมากที่สุดเท่าที่จะทำได้ เกิด อะไรขึ้นในเหตุการณ์ ที่ไหนเมื่อไรใครเกี่ยวข้องบ้าง คิดและรู้สึกอย่างไร นอกจากนี้โปรดพูดเกี่ยวกับสาเหตุที่คุณคิดว่าช่วง เวลานี้เลวร้ายมาก และสิ่งที่ฉากนั้นอาจพูดเกี่ยวกับตัวคุณหรือชีวิตของคุณอีกครั้ง หากการเล่าความทรงจำจุดต่ำของคุณเริ่มทำให้เกิดความทุกข์คุณอาจหยุดได้ทุก เมื่อ

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Survey B

Instructions: Horizontal and Vertical Individualism and Collectivism (HVIC)

For each of the statements below, please indicate the extent of your agreement or disagreement by checking the appropriate box. All items are answered on a 9-point scale, ranging from 1= never or definitely no and 9 = always or definitely yes.

สำหรับแต่ละข้อความด้านล่างโปรดระบุขอบเขตของข้อตกลงหรือความไม่เห็นด้วยโดยทำเครื่องหมายในช่องที่เหมาะสม   รายการทั้งหมดจะ ได้รับการตอบในระดับ 9 จุดตั้งแต่ 1 = ไม่เคยหรือไม่แน่นอนและ 9 = เสมอหรือแน่นอนใช่

Statement	1	2	3	4	5	6	7	8	9
1. I'd rather depend on myself than others. ฉันอยากพึ่งพาตัวเองมากกว่าคนอื่น									
2. I rely on myself most of the time; I rarely rely on others. พึ่งพาตนเองเป็นส่วนใหญ่ ฉันไม่ค่อยพึ่งพาคนอื่น									
3. I often do "my own thing." ฉันมักจะทำอะไรด้วยตัวของฉันเอง									
4. My personal identity, independent of others, is very important to me. ส่วนตัวของฉันเป็นอิสระจากคนอื่นเป็นสิ่งสำคัญสำหรับฉัน									
5. It is important that I do my job better than others. เป็นสิ่งสำคัญที่ฉันต้องทำงานของฉันให้ดีกว่าคนอื่น									
6. Winning is everything. การชนะคือทุกสิ่ง									
7. Competition is the law of nature. การแข่งขันเป็นกฎแห่งธรรมชาติ									
8. When another person does better than I do, I get tense and aroused. เมื่อคนอื่นทำได้ดีกว่าฉันฉันก็เครียดและตื่น									
9. If a co-worker gets a prize, I would feel proud. หากเพื่อนร่วมงานได้รับรางวัลฉันจะรู้สึกภูมิใจ									
10. The wellbeing of my co-workers is important to me.									

ความเป็นอยู่ที่ดีของเพื่อนร่วมงานของฉันเป็นสิ่งสำคัญสำหรับฉัน										
11. To me, pleasure is spending time with others. สำหรับฉันความสุขคือการใช้เวลากับคนอื่น ๆ										
12. I feel good when I cooperate with others. ฉันรู้สึกดีเมื่อฉันร่วมมือกับผู้อื่น										
13. Parents and children must stay together as much as possible. ผู้ปกครองและเด็กจะต้องอยู่ด้วยกันให้มากที่สุด										
14. It is my duty to take care of my family, even when I have to sacrifice what I want. ฉันมีหน้าที่ดูแลครอบครัวของฉันแม้ต้องเสียสละสิ่งที่ฉันต้องการ										
15. Family members should stick together, no matter what sacrifices are required. สมาชิกในครอบครัวควรอยู่ด้วยกันไม่ว่าจะต้องเสียสละอะไรก็ตาม										
16. It is important to me that I respect the decisions made by my groups. เป็นสิ่งสำคัญสำหรับฉันที่ฉันเคารพการตัดสินใจของกลุ่มของฉัน										

Instructions: Interpersonal Reactivity Index

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate letter on the scale at the top of the page: A, B, C, D, or E. When you have decided on your answer, fill in the letter next to the item number. READ EACH ITEM CAREFULLY BEFORE RESPONDING. Answer as honestly as you can. Thank you.

ข้อความต่อไปนี้สอบถามเกี่ยวกับความคิดและความรู้สึกของคุณในสถานการณ์ที่หลากหลาย สำหรับแต่ละรายการระบุว่าคุณอธิบายตัวคุณได้ดี เพียงใดโดยการเลือกตัวอักษรที่เหมาะสมบนสเกลที่

ด้านบนของหน้า: A, B, C, D หรือ E เมื่อคุณตัดสินใจเลือกคำตอบแล้วให้กรอกตัวอักษรถัดจาก หมายเลขรายการ อ่านแต่ละรายการ อย่างละเอียดก่อนที่จะตอบสนอง ตอบอย่างสุจริตเท่าที่จะทำได้ ขอบคุณค่ะ

ANSWER SCALE:

	A	B	C	D	E	
	DOES NOT DESCRIBE ME WELL				DESCRIBE ME VERY WELL	

Statement	A	B	C	D	E
1. I daydream and fantasize, with some regularity, about things that might happen to me. ฉันฝันกลางวันและเพ้อฝันโดยสม่ำเสมอเกี่ยวกับสิ่งต่าง ๆ ที่อาจเกิดขึ้นกับฉัน					
2. I often have tender, concerned feelings for people less fortunate than me. ฉันมักจะมีความรู้สึกอ่อนโยนและเป็นห่วงสำหรับคนที่โชคดีน้อยกว่าฉัน					
3. I sometimes find it difficult to see things from the "other guy's" point of view. บางครั้งฉันพบว่ามันยากที่จะเห็นสิ่งต่าง ๆ จากมุมมองของ "คนอื่น"					
4. Sometimes I don't feel very sorry for other people when they are having problems. บางครั้งฉันไม่รู้สึกเสียใจกับคนอื่นเมื่อพวกเขามีปัญหา					
5. I really get involved with the feelings of the characters in a novel. ฉันเกี่ยวข้องกับความรู้สึกของตัวละครในนวนิยายจริงๆ					
6. In emergency situations, I feel apprehensive and ill-at-ease.					

ในสถานการณ์ฉุกเฉินฉันรู้สึกวิตกและไม่สบายใจ					
7. I am usually objective when I watch a movie or play, and I don't often get completely caught up in it. ฉันมักจะมีวัตถุประสงค์เมื่อฉันดูหนังหรือเล่นและฉันมักจะไม่ติดมัน					
8. I try to look at everybody's side of a disagreement before I make a decision. ฉันพยายามดูความขัดแย้งของทุกคนก่อนตัดสินใจ					
9. When I see someone being taken advantage of, I feel kind of protective towards them. เมื่อฉันเห็นคนที่ถูกเอารัดเอาเปรียบฉันรู้สึกถึงการปกป้องพวกเขา					
10. I sometimes feel helpless when I am in the middle of a very emotional situation. บางครั้งฉันรู้สึกหมดหนทางเมื่อฉันอยู่ในสถานการณ์ที่สะเทือนอารมณ์มาก					
11. I sometimes try to understand my friends better by imagining how things look from their perspective. บางครั้งฉันพยายามเข้าใจเพื่อนของฉันให้ดีขึ้นด้วยการจินตนาการว่าสิ่งต่าง ๆ มองจากมุมมองของพวกเขาอย่างไร					
12. Becoming extremely involved in a good book or movie is somewhat rare for me. การมีส่วนร่วมอย่างมากในหนังสือหรือภาพยนตร์ที่ดีนั้นค่อนข้างยากสำหรับฉัน					
13. When I see someone get hurt, I tend to remain calm. เมื่อฉันเห็นใครบางคนได้รับบาดเจ็บฉันมักจะสงบ					
14. Other people's misfortunes do not usually disturb me a great deal. ความโชคร้ายของคนอื่นมักไม่รบกวนฉันอย่างมาก					
15. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments. ถ้าฉันแน่ใจว่าฉันพูดถูกบางอย่างฉันจะไม่เสียเวลาฟังข้อโต้แย้งของคนอื่น					
16. After seeing a play or movie, I have felt as though I were one of the characters. หลังจากดูละครหรือภาพยนตร์ฉันรู้สึกเหมือนเป็นตัวละครตัวหนึ่ง					
17. Being in a tense emotional situation scares me.					

การอยู่ในสถานการณ์ที่ตึงเครียดทางอารมณ์ทำให้ฉันกลัว					
18. When I see someone being treated unfairly, I sometimes don't feel very much pity for them. เมื่อฉันเห็นคนที่ถูกปฏิบัติอย่างไม่ยุติธรรมบางครั้งฉันก็ไม่รู้สึกสงสารพวกเขา					
19. I am usually pretty effective in dealing with emergencies. ฉันมักจะค่อนข้างมีประสิทธิภาพในการจัดการกับเหตุฉุกเฉิน					
20. I am often quite touched by things that I see happen. ฉันมักจะรู้สึกประทับใจกับสิ่งที่ฉันเห็นเกิดขึ้น					
21. I believe that there are two sides to every question and try to look at them both. ฉันเชื่อว่ามีสองด้านสำหรับทุกคำถามและพยายามดูทั้งสองอย่าง					
22. I would describe myself as a pretty soft-hearted person. ฉันจะอธิบายตัวเองว่าเป็นคนที่อ่อนโยน					
23. When I watch a good movie, I can very easily put myself in the place of a leading character. เมื่อฉันดูหนังที่ดีฉันสามารถทำให้ตัวเองกลายเป็นตัวละครหลักได้อย่างง่ายดาย					
24. I tend to lose control during emergencies. ฉันมักจะสูญเสียการควบคุมในกรณีฉุกเฉิน					
25. When I'm upset at someone, I usually try to "put myself in his shoes" for a while. เมื่อฉันอารมณ์เสียกับใครบางคนฉันมักจะ**สมมุติสถานการณ์ว่าหากฉันเป็นเขา**					
26. When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me. เมื่อฉันอ่านเรื่องราวหรือนวนิยายที่น่าสนใจฉันจินตนาการว่าฉันจะรู้สึกอย่างไรถ้าเหตุการณ์ในเรื่องเกิดขึ้นกับฉัน					
27. When I see someone who badly needs help in an emergency, I go to pieces. เมื่อฉันเห็นคนที่ไม่ดีต้องการความช่วยเหลือในกรณีฉุกเฉินฉันไปเป็นชิ้น ๆ					
28. Before criticizing somebody, I try to imagine how I would feel if I were in their place. ก่อนที่จะวิพากษ์วิจารณ์ใครสักคนฉันพยายามจินตนาการว่าฉันจะรู้สึกอย่างไรถ้าฉันอยู่ในที่ของพวกเขา					

Instructions: Cognitive Emotion Regulation Questionnaire (CERQ)

For each of the statements below, please indicate the extent of your thoughts and feelings by checking the appropriate box. All items are answered on a 5-point scale, ranging from 1= never or definitely no and 5 = always or definitely yes.

สำหรับแต่ละข้อความด้านล่างโปรดระบุขอบเขตความคิดและความรู้สึกของคุณโดยทำเครื่องหมายในช่องที่เหมาะสม   รายการทั้งหมดจะได้รับคำตอบในระดับ 5 จุดตั้งแต่ 1 = ไม่เคยหรือไม่แน่นอนและ 5 = เสมอหรือแน่นอนใช่

Statement	1	2	3	4	5
Self-blame (โทษตัวเอง)					
1. I feel that I am the one to blame for it ฉันรู้สึกว่าฉันเป็นคนที่ตำหนิมัน					
2. I feel that I am the one who is responsible for what has happened ฉันรู้สึกว่าฉันเป็นผู้รับผิดชอบสิ่งที่เกิดขึ้น					
3. I think about the mistakes I have made in this matter ฉันคิดถึงความผิดพลาดที่ฉันทำในเรื่องนี้					
4. I think that basically the cause must lie within myself ฉันคิดว่าโดยพื้นฐานแล้วสาเหตุต้องอยู่ภายในตัวฉัน					
Acceptance (การยอมรับ)					
5. I think that I have to accept that this has happened. ฉันคิดว่าฉันต้องยอมรับว่าสิ่งนี้เกิดขึ้น					
6. I think that I have to accept the situation. ฉันคิดว่าฉันต้องยอมรับสถานการณ์					
7. I think that I cannot change anything about it. ฉันคิดว่าฉันไม่สามารถเปลี่ยนแปลงอะไรได้เลย					
8. I think that I must learn to live with it. ฉันคิดว่าฉันต้องเรียนรู้ที่จะอยู่กับมัน					
Focus on thought/rumination (มุ่งเน้นไปที่ความคิด / ครุ่นคิด)					

9. I often think about how I feel about what I have experienced. ฉันมักจะคิดเกี่ยวกับวิธีที่ฉันรู้สึกเกี่ยวกับสิ่งที่ฉันมีประสบการณ์					
10. I am preoccupied with what I think and feel about what I have experienced. ฉันหมกมุ่นอยู่กับสิ่งที่ฉันคิดและรู้สึกเกี่ยวกับสิ่งที่ฉันมีประสบการณ์					
11. I want to understand why I feel the way I do about what I have experienced. ฉันต้องการที่จะเข้าใจว่าทำไมฉันถึงรู้สึกอย่างที่ฉันทำเกี่ยวกับสิ่งที่ฉันมีประสบการณ์					
12. I dwell upon the feelings the situation has evoked in me. ฉันอาศัยอยู่กับความรู้สึกที่เกิดขึ้นในตัวฉัน					
Positive refocusing (การปรับโฟกัสเชิงบวก)					
13. I think of nicer things than what I have experienced. ฉันคิดถึงสิ่งที่ดีกว่าสิ่งที่ฉันมีประสบการณ์					
14. I think of pleasant things that have nothing to do with it ฉันคิดว่าสิ่งที่น่าพอใจที่ไม่มีอะไรเกี่ยวข้องกับมัน					
15. I think of something nice instead of what has happened. ฉันคิดถึงสิ่งที่ดีแทนที่จะเป็นสิ่งที่เกิดขึ้น					
16. I think about pleasant experiences. ฉันคิดถึงประสบการณ์ที่น่าพอใจ					
Refocus on planning (มุ่งเน้นการวางแผน)					
17. I think of what I can do best. ฉันคิดถึงสิ่งที่ฉันสามารถทำได้ดีที่สุด					
18. I think about how I can best cope with the situation. ฉันคิดว่าฉันจะรับมือกับสถานการณ์ได้ดีที่สุดอย่างไร					
19. I think about how to change the situation. ฉันคิดว่าจะเปลี่ยนสถานการณ์อย่างไร					
20. I think about a plan of what I can do best. ฉันคิดเกี่ยวกับแผนของสิ่งที่ฉันสามารถทำได้ดีที่สุด					

Positive reappraisal (การประเมินใหม่เชิงบวก)					
21. I think I can learn something from the situation. ฉันคิดว่าฉันสามารถเรียนรู้บางอย่างจากสถานการณ์					
22. I think that I can become a stronger person as a result of what has happened. ฉันคิดว่าฉันสามารถเป็นคนที่เข้มแข็งขึ้นได้จากสิ่งที่เกิดขึ้น					
23. I think that the situation also has its positive sides. ฉันคิดว่าสถานการณ์ก็มีแง่บวกเช่นกัน					
24. I look for the positive sides to the matter. ฉันมองหาด้านบวกของเรื่อง					
Putting into perspective (วางในมุมมอง)					
25. I think that it all could have been much worse. ฉันคิดว่ามันน่าจะแย่กว่านี้มาก					
26. I think that other people go through much worse experiences. ฉันคิดว่าคนอื่นต้องผ่านประสบการณ์ที่แย่กว่านี้มาก					
27. I think that it hasn't been too bad compared to other things. ฉันคิดว่ามันไม่ได้เลวร้ายไปกว่าสิ่งอื่น ๆ					
28. I tell myself that there are worse things in life. ฉันบอกตัวเองว่ามีสิ่งเลวร้ายในชีวิต					
Catastrophizing (ความวิตกกังวล)					
29. I often think that what I have experienced is much worse than what others have experienced. ฉันมักจะคิดว่าสิ่งที่ฉันมีประสบการณ์นั้นแย่กว่าสิ่งที่คนอื่นเคยเจอ					
30. I keep thinking about how terrible it is what I have experienced. ฉันคิดอยู่เสมอว่ามันช่างเลวร้ายเหลือเกิน					
31. I often think that what I have experienced is the worst that can happen to a person.					

ฉันมักจะคิดว่าสิ่งที่ฉันมีประสบการณ์นั้นเลวร้ายที่สุดที่สามารถเกิดขึ้นได้กับบุคคล					
32. I continually think how horrible the situation has been. ฉันคิดอย่างต่อเนื่องว่าสถานการณ์เป็นอย่างไร					
Other-blame (โทษผู้อื่น)					
33. I feel that others are to blame for it. ฉันรู้สึกว่าคนอื่นจะตำหนิมัน					
34. I feel that others are responsible for what has happened. ฉันรู้สึกว่าคนอื่นมีความรับผิดชอบต่อสิ่งที่เกิดขึ้น					
35. I think about the mistakes others have made in this matter. ฉันคิดถึงความผิดพลาดที่คนอื่นทำในเรื่องนี้					
36. I feel that basically the cause lies with others. ฉันรู้สึกว่าสาเหตุอยู่กับผู้อื่นโดยทั่วไป					

(End)

Appendix 5: Certified translation

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Certification of Translation Accuracy

Translation of the survey from English to Thai and "The Life Story" interview responses from Thai to English.

We, AECC Global, hereby certify that the above-mentioned document has been translated by the researcher and certified by our experienced and qualified professional team and that, in our best judgement, the translated text truly reflects the content, meaning and style of the original text and constitutes in every respect a correct and true translation of the original document.

This is to certify that the correctness of the translation only. We do not guarantee that the original is a genuine document, or that the statements contained in the original document are true. Future, AECC Global, assumes no liability for the way in which the translation is used by the customer or any third party, including end-users of the translation.

A certified copy of the survey is attached to this certification. However, the responses are confidential and sent to the researcher.

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Dated: November 24, 2020