I Was Therefore I Am: Creating Self-Continuity Through Remembering Our Personal Past

Susan Bluck & Hsiao-Wen Liao University of Florida

Beginning at least in adolescence, humans are unique from other animals in the combination of having a conscious, reflective self and being aware of their movement through chronological time. Together, these create the need to maintain a sense of self-continuity across the lifespan. We review theory and research from the autobiographical memory and reminiscence literatures, arguing that maintaining self-continuity is a central function of remembering the personal past. A two-level conceptual model of self-continuity is proposed that acknowledges both the passage of chronological time in human lives and the malleability of retrospective views of one's past. In presenting this model, we aim to ignite further research on the central roles played by reminiscence and autobiographical memory processes in maintaining and reforging self-continuity over time. Such research is significant given the essential place of self-continuity in human adaptation and thriving.

Key Terms: Reminiscence; Autobiographical Memory; Self-Continuity; Function

Remembering the Personal Past: Forging Self-Continuity Across Adulthood

"A person's life consists of a collection of events, the last of which could also change the meaning of the whole, not because it counts more than the previous ones but because once they are included in a life, events are arranged in an order that is not chronological but, rather, corresponds to an inner architecture." (Calvino, 1985, pp. 124)

Calvino's musing on how people collect together the events of their lives encourages us to consider how, beginning in childhood, we integrate a lifetime of individual lived experiences into a biographical identity or a life story (Erikson, 1968; McAdams & Olson, 2010). He captures the essential element that makes reminiscing and *autobiographical reasoning* (Bluck & Habermas, 2000) such important human phenomena. That is, that individuals are able to actively work with the remembered events of their lives to create, renovate, and reconstruct a life story over time (Coleman, 1991; Reedy & Birren, 1980). Much of the research and practice in the reminiscence literature relies on the verity of that essential concept (e.g., Haight & Webster, 2002; Webster

chronology (Habermas & Bluck, 2000). At the same time, chronological time cannot be so easily dismissed. In this paper, we argue that the events of our lives are organized so that we are able to use the remembered past functionally at two different levels, to create what we term *chronological self-continuity* and *retrospective self-continuity*.

Self-Continuity

& Haight, 1995). Note however that Calvino's quote

suggests that this inner architecture or life story is not

chronological. We wholly agree that individuals create rich, integrated life stories that are not bound only by

Each morning when I awaken, how do I know I am me? How do people create a sense of self-continuity over days, weeks, and a lifetime? Forging self-continuity is central to adaptation in so many subtle ways that we are often unaware of its psychological importance (Bluck & Alea, 2009). To convince oneself of the gravity of maintaining self-continuity, a simple thought experiment suffices. What if I awakened not knowing I was me? Everything from daily activities and personal relationships, to future plans and goals would be grossly disrupted. Though this thought experiment may seem radical it is not so far-fetched: it reflects to some extent the world of infants and young children (i.e., before age five) who have not developed a sense of self, and time, and do not have autobiographical memory in place (e.g., Bird & Reese, 2008; Howe & Courage, 1997). Once we leave early childhood, however, and across the rest of the lifespan, maintaining a sense of self-continuity is

Susan Bluck & Hsiao-Wen Liao, Department of Psychology, University of Florida

Correspondence concerning this article should be addressed to Susan Bluck, Ph.D., Department of Psychology, University of Florida, PO Box 115911, Gainesville, FL 32611; E-mail: bluck@ufl.edu

foundational to human endeavors. Yet, how do we do it? We do it through remembering and reminiscing about the self in the past (e.g., Bluck & Levine, 1998; Butler, 1963). The ecological approach to autobiographical memory (Baddeley, 1988; Bluck & Alea, 2002; Bruce, 1989) posits that maintaining self-continuity is a primary function for remembering the personal past.

The Self-Continuity Function of Memory

All organisms have a past, but humans are unique in the extent to which they remember their personal past and consciously, reflectively experience a sense of time (Neisser, 1988). Animal memory systems are adapted to their environment: species vary in ability to recall previously-encountered individuals, food sources, and dangerous situations. The human animal is, however, unique in its ability to recall a large set of personallyexperienced events in relatively good detail and with reasonable accuracy over long periods (Markowitsch & Staniloiu, 2011: Terrence & Metcalfe, 2005) allowing reflection on life over time (Tulving, 2005). The need for self-continuity is thereby a product of having a self and perceiving the flow of chronological time. To record the self over time, self and personal memory must be inextricably linked, and this union gives rise to processes such as reminiscing, autobiographical remembering and autobiographical reasoning. A major theoretical function of such processes is to create and maintain self-continuity (Addis & Tippett, 2008, Bluck & Alea, 2002). This theoretical claim concerning the role of memory in selfcontinuity is born out in empirical research showing that individuals report using autobiographical memory to maintain a sense of self over time (Bluck & Alea, 2009) and reminiscing to forge identity (Webster, 2003). That is, individuals weave together events of their lives to create and update their current identity (e.g., McLean & Pasupathi, 2012). There are certainly other functions of remembering our personal past (e.g., social and directive functions; Bluck, 2003) and even other self-related functions (e.g., self-enhancement; Wilson & Ross, 2003). It appears, however, that one central function of remembering is to create a much-needed sense of selfcontinuity that allows the diverse, sophisticated behavior that we exhibit as humans.

Self and Memory: I Was Therefore I Am

Though the study of the self has a long-standing place in psychology and philosophy and is a central experiential aspect of people's lives, it remains difficult to define (e.g., Klein, 2012). The self is implicated closely, however, in prominent models of autobiographical memory. Humans recall events about the self with relatively good detail and reasonable accuracy over long periods of time (Tulving, 2005; Welze & Markowitsch, 2005). Conway and colleagues (Self-Memory System Model; Conway & Pleydell-Pearce, 2000) have presented

a strong case for the interwoven nature of the self and autobiographical memory. This begins in early childhood with substantial developments occurring into adolescence (Habermas & Bluck, 2000).

The relation of memory and self is not seamless, however. Particularly over long life periods (i.e., with age) or in the face of changes in life circumstances (e.g., immigration, divorce, loss), self-continuity may be disrupted. Challenges to self-continuity can arise as a result of normative and non-normative critical life events across adulthood (Baltes, 1997). In daily life, small lapses in self-continuity may also occur, as represented by an individual claiming, "I'm just not myself today." Or, in the face of more serious life challenges, saving that "I just don't know who I am anymore." As individuals reach very late life they may also have the experience of looking in the mirror and feeling that the image they see "is not really me." These examples remind us that, though self-continuity is often taken for granted, when it is disrupted it leads to a sort of disorientation that may have negative effects on well-being. This brings about the need to use memory to maintain self-continuity (e.g., Singer & Bluck, 2001). Self and memory act as partners in the shared enterprise of maintaining and, as needed, reforging self-continuity.

Chronological and Retrospective Self-Continuity

Up to this point, self-continuity has been treated as a unitary construct. In the literature, self-continuity (e.g., Sani, 2008) has often been considered in terms of how individuals construct an integrated or coherent life story through reminiscing and narrative processing (McAdams, 2013). In addition to this widely recognized level of selfcontinuity, however, there may be a more basic level at which the human organism requires a continuous, chronological sense of self simply to organize incoming information and execute daily behaviors (Damasio, 2010; Greenwald, 1980). As such, though it is reasonable to discuss self-continuity at a global level, it may be useful to differentiate levels of self-continuity. For example, Addis and Tippett (2008) have suggested two types of self-continuity: phenomenological and narrative, on the basis of distinctions between episodic and semantic memory. Grounded in the Self-Memory System (Conway, Singer, & Tagini, 2004) we propose a somewhat different model that includes what we term chronological self-continuity and retrospective selfcontinuity. In doing so, we embrace the notion that lives unfold over chronological time and that this is an essential basic element of our lived experience as humans. Chronological self-continuity relies on automatic mechanisms of autobiographical memory. These develop relatively early and help to create a perceivable record of the lived past for the human organism. Retrospective selfcontinuity is closer to the "inner architecture" referred to by Calvino (1985) in our opening quote. It encompasses the basic processes of chronological self-continuity but also builds upon them. In doing so, it involves effortful processes such as autobiographical remembering and reasoning, reminiscence and life review (Butler, 1963). These two levels of self-continuity are described further below and summarized in Table 1.

require filtering or selecting remembered events in terms of self-related process, such as personal significance or current goal-relevance. Instead, chronological self-continuity relies not on evaluative selection but on having a quite comprehensive record of one's lived past. The focus is on creating a record that corresponds with perceived reality (correspondence vs. coherence;

Table 1. Characteristics of Chronological and Retrospective Self-Continuity

Levels	Conscious experience	Maintenance	Self-memory relation	Function
Chronological self- continuity	One recognizes the existence of the self over chronological time	Effortlessly sustained; resilient in the face of environmental threat	Remembered experience plays a major role: the self registers experience but has little influence	To connect self-related information that orients the human organism in time and space
Retrospective self- continuity	One recognizes and reflects on the self as embedded in one's own autobiographical history	Effortfully forged: environmental threat can diminish/disrupt continuity	The self plays a major role as autobiographical author: remembered experience provides the essential content	To connect self-related information in a rich story that fosters self-regulation across socioemotional time and space

Chronological Self-Continuity

Chronological self-continuity is a minimum requirement for individuals to consciously recognize their existence as continuing over chronological time. It is likely necessary for survival: research suggests that the ability to recognize the self is an evolutionary adaptation that is effortlessly sustained through automatic mechanisms (Damasio, 2010). It is grounded in the Self-Memory System (Conway, Singer, & Tagini, 2004) and relies on the early childhood emergence of an autobiographical self (Howe & Courage, 1997). In early childhood, individuals come first to understand "I am" and then to understand "I am and I was." Their past self and present selves become linked in a rudimentary fashion as they first begin to develop a personal timeline (about age five; Fivush, 2011). This very basic awareness of one's continuity as an individual over time is created and persists across the lifespan. It is highly resilient and unlikely to be disrupted by changes in one's environment or to be threatened by external events.

How do the self and memory work together in creating this type of self-continuity? We suggest that memory is a major player and the self a more minor assistant in maintaining chronological self-continuity. Such continuity relies heavily on episodic, or autobiographical, memory which is constantly storing imagery, perceptual, and sensory information about one's ongoing experiences (Conway & Pleydell-Pearce, 2000). Although the self is necessarily involved it plays a lesser role: forging this basic level of self-continuity does not

Conway, Singer, & Tagini, 2004). As memories of one's past come to mind, either unbidden (Rasmussen & Berntsen, 2009) or as cued by one's current environment (Bluck, Alea, & Demiray, 2010), they serve to strengthen the temporal link between the self now (i.e., "I am.") and the self then (i.e., "I was."). As such, at this level there is only very simple reminiscing (if any) and no autobiographical reasoning: remembering occurs in the form of discrete recall of specific events, images, sensations, or feelings of one's self in the past.

The function of chronological self-continuity is to orient the individual in physical space (e.g., "I am in my own home where I have been many times; I am in Berlin again, where I also visited as a young woman.") and time (e.g., "That was not today, it was yesterday; I have a childhood and youth behind me."). This allows individuals to adapt to and manage life activities in a complex world: it may also direct the individual to approach or avoid certain events at present or in the future (Newman & Lindsay, 2009). Chronological selfcontinuity manifests as a continuing and constantly updated record. It allows humans to have a grounded experiential sense of existing over time regardless of changes in the environment or life circumstances. In doing so, it lays the foundation for a more sophisticated form of continuity, retrospective self-continuity.

Retrospective Self-Continuity

Retrospective self-continuity involves experiencing a continuous sense of self over time through an organized

higher-order mental representation, such as a set of self-defining memories or a life story (McAdams & Olson, 2010; Singer & Blagov, 2004). At this level of self-continuity, individuals not only recognize their basic existence as organisms over chronological time but recall and reflect on their autobiographical history. Such reflection has been characterized as involving effortful processes, including life review (Butler, 1963), autobiographical reasoning (Bluck & Habermas, 2000), reminiscing (Webster, 2003), integrative reminiscing (Watt & Wong, 1991), and meaning-making (Thorne, McLean, & Lawrence, 2004).

This reflective, retrospective self-continuity likely develops in adolescence with the emergence of biographical identity (Habermas & Bluck, 2000) and continues across adulthood. Over time, a retrospective view of one's life is constructed (e.g., a life story) which acts as an overarching self-knowledge structure (i.e., life story schema, Bluck & Habermas, 2000) that integrates past and present selves. Through these reflective processes, the individual experiences a sense of retrospective self-continuity (e.g., Bluck & Alea, 2008; Pasupathi, Mansour, & Brubaker, 2007). Note, however, that with this ability for creative construction and reconstruction, comes the possibility that stark changes in the environment can act as threats that diminish or disrupt one's established self-continuity. Retrospective selfcontinuity may be challenged by normative processes (e.g., life phase transitions such as entering adulthood, or reaching very late life), normative events (e.g., birth of a child, retirement), and non-normative events (e.g., immigration, divorce, early death of a loved one). Over the long term, how one negotiates disruptions in selfcontinuity may affect psychological well-being, as well as decision-making about one's future life direction.

Chronological self-continuity is so basic that it is rarely subject to our awareness. Retrospective selfcontinuity is similar in that we often take it as a given – but we recognize when it is disrupted. That is, we become aware of our retrospective self-continuity most keenly when it is threatened, which may result in a sense of disorientation and decreased well-being. When individuals face challenging events they are able to engage in self-regulation, re-forging retrospective selfcontinuity through processes such as reminiscence (Bohlmeijer, Westerhof, & Emmerik-de Jong, 2008; O'Rourke, Cappeliez, & Claxton, 2011), redemptive interpretation (McAdams, Reynolds, Lewis, Patten, & Bowman, 2001), transformational narration (Pals, 2006), learning life lessons (Bluck & Glück, 2004), and creating new self-event connections (McLean & Pasupathi, 2012; Pasupathi, Mansour, & Brubaker, 2007).

These processes are in line with the construct of coherence in the Self-Memory System Model (Conway, Singer, & Tagini, 2004). That is, the emphasis is on creating a coherent, interwoven story of one's self in the

past more than on achieving exact correspondence with the details of the perceived facts or details of experiences. In creating retrospective self-continuity, the self plays a major role in authoring and re-authoring one's story (McAdams, 2013) so as to negotiate personal changes: memory plays the essential but lesser role of providing a relatively invariant chronology of lived events.

Given that we have chronological self-continuity, what is the function of additionally having retrospective self-continuity? This higher-order level of self-continuity creates a basis for more adaptive life management and self-regulation. It does not simply aid survival, but increases the chances for socio-emotional growth. While chronological self-continuity may be necessary for survival it is not sufficient for human thriving. Through retrospective self-continuity humans gain self-insight, learn life lessons, and can develop purpose or meaning. They are able to gain a sense of authorship of the life lived (McAdams, 2013); of uniquely owning one's life (Erikson, 1968). The host of remembered experiences available at the chronological level are utilized for the construction and reconstruction of a life story at the retrospective level. That is, individuals are able to reflectively create a level of self-continuity that allows self-regulation across socio-emotional time and space.

Conclusion

Remembering the personal past is a unique human phenomenon. Given that we have both a sense of self and are aware of the passage of chronological time, humans are faced with the issue of maintaining self-continuity. Such continuity is established, at least in part, through autobiographical memory and reminiscence processes. Maintaining self-continuity may be the primary function of remembering our personal past.

This paper presented a two-level conceptual model of self-continuity. Chronological self-continuity is created through fundamental and involuntary processes of remembering the personal past and serves a basic survival function. Retrospective self-continuity relies on sophisticated higher-order abilities that involve the reflective use of personal memory, permitting self-regulation, adaptation, and growth. Together, these two synchronous levels of self-continuity offer individuals a powerful adaptive resource. Human beings can perform the necessary survival task of orienting themselves in physical time and space, but they can also orient themselves in socio-emotional time and space, creating rich and purposeful life stories that guide human development.

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