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Function in context: Why American and Trinidadian young and older adults remember the personal past

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Abstract

Multiple and interacting contextual (culture, life phase) and person-specific predictors (i.e., personality, tendency to think-talk about the past) of the functions of autobiographical memory were examined using the Thinking about Life Experiences scale. American ($N = 174$) and Trinidadian ($N = 182$) young and older adults self-reported how frequently they remembered the personal past to serve self, social, and directive functions, how often they thought and talked about their past overall, and completed a measure of trait personality. Independent contextual and person-specific predictors were found for using memory to serve a social-bonding function: Americans, young adults, those higher in extraversion, lower in conscientiousness, and individuals who frequently think and talk about the past more often use autobiographical memory for social-bonding. Across cultures, younger adults report more frequently using memory to serve all three functions, whereas Trinidadians who think more often about the past compared with those who reflect less often, are more likely to use it for self and directive functions. Findings are discussed in terms of the individual's embeddedness in cultural and life phase contexts when remembering.

Keywords

autobiographical memory; function; culture; aging; personality

The study of the functions of remembering the personal past emerged as part of the ecological memory movement which encourages researchers to examine autobiographical memory in the context of daily life (e.g., Baddeley, 1988; Bruce, 1989; Neisser, 1978). Contexts create press on individuals to use memories to serve certain functions (Bluck, Alea, & Demiray, 2010). The current study considered the individual embedded in two contexts for remembering, culture and life phase. The three study aims were to examine: (i) cultural (American, Trinidadian) differences in the functions of remembering; (ii) life phase (younger, older adults) differences in the functions of remembering (including life phase differences within culture); and (iii) whether person-specific tendencies (trait personality,

thinking and talking about the past) are moderated by culture and life phase contexts in predicting memory functions.

Three Functions of Autobiographical Memory

At least, three broad functions of remembering have been studied (Bluck & Alea, 2002): self, social, and directive (e.g., Bluck & Alea, 2011; Cohen, 1998; Pillemer, 1992; Rasmussen & Habermas, 2011). The *self function* refers to the use of the personal past to understand how one has remained the same or changed over time (e.g., Bluck, Alea, Habermas, & Rubin, 2005; Conway & Pleydell-Pearce, 2000). The *social function* involves using memories to create social relations and maintain social bonds (e.g., Alea & Bluck, 2003; Hyman & Faries, 1992; McLean & Lilgendahl, 2008; Pasupathi, Lucas, & Coombs, 2002). The *directive function* involves remembering life events to solve problems in the present and as a resource for future planning (e.g., Bluck, Dirk, Mackay, & Hux, 2005; Kuwabara & Pillemer, 2010). There is only a small body of research from various cultures that have examined the use of memory to serve these functions in adulthood (e.g., America; Baddeley & Singer, 2008; Denmark, Rasmussen & Berntsen, 2009; Germany; Rasmussen & Habermas, 2011; Chinese-American; Kulkofsky, Wang, & Hou, 2010; Trinidad; Alea, Arneaud, & Ali, 2013). Thus, we still know little about the extent to which ecological contexts, such as one's culture and life phase, create press to use memory to serve these three functions.

Cultural Contexts: Being American and Being Trinidadian

Societies vary on psychological values (Schwartz, 1992) and social indicators (i.e., developing versus developed nations) that influence life context (Hofstede, 2001), and thus the reasons why people use the past in daily life (Wang, 2013). Most work on memory functions compares societies with clear inter- (Asian) and independent (American) value orientations (e.g., Kulkofsky, et al., 2010; Leichtman, Wang, & Pillemer, 2003). The current study extends these value orientations by examining the functions of autobiographical memory in America compared with Trinidad and Tobago (data collected only in Trinidad), a country that is not clearly individualistic nor collectivist (Descartes, 2012). Once this extension is made, however, distinguishing 'culture' across nations may be more complex (e.g., Inglehart & Baker, 2000; Oyserman, Coon, & Kimmelmeier, 2002).

Using societal indicators of development may be one way to distinguish these two countries. Trinidad is a developing nation (International Monetary Fund, World Economic Outlook, April 2010): it has lower education levels (United Nations Educational, Scientific, and Cultural Organization, UNESCO, 2010), poorer health, and lower life expectancy (World Health Statistics, WHO, 2011) than developed countries, like America. These social indicators relate to autobiographical memory: parental education (e.g., Reese & Newcomb, 2007), occupation (e.g., Wiley, Rose, Burger, & Miller, 2008), and socioeconomic status (e.g., Wessel, Meeren, Peeters, Arntz, & Merckelbach, 2011) relate to how children narrate the personal past. There is no known work, however, linking indicators of societal development to memory functions.

However, social indicators relate to psychological values (Hofstede, 2001; Schwartz, 1992). We do not measure values in the current study, nor has Trinidad ever been included in a cross-national study of values (e.g., House, Javidan, & Dorfman, 2001; Inglehart & Baker, 2000; Ralston, Egri, Reynaud, et al., 2011); thus, we are speculating. Even so, countries, like Trinidad, with lower levels of education, tend to adhere to more conservative values, like having harmonious relationships (Schwartz, 1992). These values may be reflected in the reasons why people use the personal past. Highly individual, self-oriented cultures (Markus & Kitayama, 1991), often have a biographical sense of the self as separate and unique; whereas, collectivist societies (e.g., Asian) have a relational view of the self. These value differences are reflected in the ways that life events are remembered (see Wang, 2013 for a review): Americans' memories have a greater emphasis on the self, whereas Asians have more socially-oriented memories consistent with their focus on the self as one with others (Wang & Conway, 2004).

Trinidad has ethnic groups that co-exists ascribing to both individualistic and collectivist values (i.e., African, East Indian, respectively; Descartes, 2012), yet there are facets of the culture which we suspect lean towards interdependence. Extended families living in the same household or in close geographical proximity is relatively common (e.g., St. Bernard, 2003). Trinidad also has a "liming" culture (Erikson; 1990), which is "any leisure activity entailing... the exchange of tall stories, jokes and anecdotes etc. provided the activity has no explicit purpose beyond itself" than to be with others (p. 25). These values that support social bonding may leave less of a need to volitionally create social-bonds. In contrast, in America the nuclear family is still a relatively common living arrangement (America's Families and Living Arrangements Census Report, 2012), and the individualistic orientation makes social-bonding more difficult (Putnam, 2000). Social bonding may require more effort in America, with remembering the personal past as one way to accomplishing the task. Social bonding functions may also be socialized early in American life: American mothers (compared with Asian) believe that memories should be shared with children for social reasons (Kulkofsky et al., 2009).

Trinidadian and American cultures may also differ in their view of the future. Trinidad, as a developing country, may value an orientation of the future that is psychologically nearer, compared with American culture (e.g., Hofstede, 2001). This could perhaps be due to lower life expectancy: in essence, the future is today when life is shorter (Carstensen, Isaacowitz, & Charles, 1999). A shorter time orientation has been found to predict less often using the past to direct behavior (Bluck & Alea, 2009), a memory function that seems salient in Trinidad. For example, Alea and Bluck (2013) using the directive function subscale of the Thinking About Life Experiences Scale (TALE, Bluck & Alea, 2011) found, that Trinidadian adults (Study 2) use the past to direct behavior more than Americans (Study 1). However, no direct statistical comparisons were made between the two cultures. Additional work from Trinidad (Alea, in press) finds that memory is more frequently used to direct behavior compared with self or social functions. To date though, no known study has compared how often Americans and Trinidadians remember the personal past to serve all three functions.

Life Phase Contexts: Being Young and Being Old

Life span developmental psychologists (e.g., Baltes, Lindenberger, & Staudinger, 1998; Erikson, 1968) have detailed how particular life phases create contexts with unique goals and concerns that may relate to using the past for self, social and directive functions (Bluck & Alea, 2002). Young adulthood is devoted to creating a sense of self (e.g., Arnett, 2000; Erikson, 1968; Habermas & Bluck, 2000) whereas in late life one's perceptions of self are more stable (Roberts & DeVecchio, 2000). Young adults are faced with the psychosocial task of forming new intimate relationships (Erikson, 1968) whereas older adults' seek largely to sustain and optimize existing relationships (Carstensen et al., 1999). Young adults are making decisions that will affect their future trajectory (Ebner, Freund, & Baltes, 2006) while older adults view future time as more limited (Carstensen et al., 1999).

Life phase patterns are clear for the self and directive functions. Young adults, in both self-reports and content-coded narratives, more frequently than older adults use the personal past to create self-continuity (e.g., Bluck & Alea, 2008; McLean & Lilgendahl, 2008; Rice & Pasupathi, 2010), and to direct behavior (e.g., Alea & Bluck, 2013; Bluck & Alea, 2009; Webster & McCall, 1999). These life phase differences have been found in developed countries, like America (Bluck & Alea, 2009) and Canada (Webster & McCall, 1999), and more recently in Trinidad (Alea, in press; Alea & Bluck, 2013). Wang and Conway (2004) also found that memories from midlife are less likely to have a self-orientation compared with memories from earlier in the life phase, regardless of culture (American and Asian). Together this work suggests that the press of life phase context on using memories for self, and perhaps directive, reasons may be similar within cultures, and perhaps supersede the press of cultural context.

However, cultural context seems to interact with life phase in the use of memory to serve a social function. In North America, young and older adults self-report using memory equally in serving social functions (Alea & Bluck, 2007; Bluck & Alea, 2009; McLean & Lilgendahl, 2008), but in Trinidad, on the same self-report measure, older adults were less likely than young adults to use memory for social-bonding (Alea, in press).

Person-Specific Variables: Trait Personality and Thinking and Talking about the Past

Relatively few studies have linked the functions of memory to trait personality (Baddeley & Singer, 2008; Cappeliez & O'Rourke, 2006; Cully, LaVoie, & Gfeller, 2001). Rasmussen and Berntsen (2010: Danish sample) found that openness to experience was related to remembering the past more frequently to serve self-reported self and directive functions. Extraversion was related to using the past for social bonding, as also found in North American studies that use self-reports (e.g., Bluck & Alea, 2011; Cappeliez & O'Rourke, 2006). Thus, openness and extraversion show systematic relations to memory functions, at least in North American and European samples.

The current study also focuses on the overall tendency to think about, and to talk about, one's personal past as a person-specific variable. One's overall frequency of thinking about

the past positively relates to all three memory functions. Overall frequency of talking about one's past is most strongly related to using memory to serve a social function (e.g., Alea et al., 2013; Bluck & Alea, 2011; Rasmussen & Habermas, 2011). Even though these tendencies relate to the functional use of memory, they do not seem to vary by adult life phase when measured with general self-report questionnaires (e.g., Bluck & Alea, 2009; Webster, 1997). Although cultural differences in the overall frequency to reflect on the past may exist when specific memories are examined (e.g., Kulkofsky et al., 2010), we nonetheless view these variables as overall personal tendencies or individual differences in the extent to which a person is past-focused. Thus, overall frequency of thinking and talking about the past are considered person-specific variables in the current study.

Study Expectations

Trinidadians are expected to report using the personal past more often to serve a directive function compared with Americans, who are more likely to use the self function of memory. Americans are also more likely than Trinidadians to use autobiographical memory to serve a social function. Younger adults are expected to use the past more often to serve self and directive functions compared with older adults (regardless of culture). However, for the social function, life phase differences may interact with cultural context: no age group differences in the social function are expected for Americans, but older Trinidadians are expected to use the social function of autobiographical memory less often than younger Trinidadians. For person-specific variables, regardless of culture, openness to experience should be positively related to self and directive functions, and extraversion should relate to the social function. Finally, across cultures, the overall tendency to think about one's personal past should be related to all memory functions, whereas talking about the personal past should relate to the social function.

Method

Participants

In both cultures, younger adults were university students and older adults were from community organizations. The American sample was from the Southeast ($N = 174$; 52% male, 48% female). Eighty percent reported their ethnicity as Caucasian, 8% Black, 5% Hispanic, 4% Asian American, and 3% chose "Other". Young adults ($n = 94$) ranged from 17 to 33 years ($M = 19.32$, $SD = 2.13$) and older adults ($n = 80$) ranged from 60 to 91 years ($M = 72.37$, $SD = 7.49$). Older ($M = 22.68$, $SD = 4.02$) had more years of education than younger adults ($M = 14.90$, $SD = 3.59$), $t(172) = -13.47$, $p < .001$. There were no age differences in subjective health (young $M = 5.12$, $SD = .70$; old $M = 5.34$, $SD = .81$), $t(172) = -1.92$, $p > .05$. Young adults were compensated with research credit or \$10.00 US. Older adults were not compensated.

Participants in Trinidad were from various regions ($N = 182$; 45% male, 56 % female). The ethnic distribution was similar to the population (National Census Report, Trinidad and Tobago, 2011): 37% were African, 38% East Indian, and 25% Mixed. Young adults ($n = 104$) ranged from 18 to 39 years ($M = 25.99$, $SD = 5.48$) and older adults ($n = 62$) ranged from 50 to 75 years ($M = 63.94$, $SD = 6.97$). Older adulthood was consider > 50 rather than

> 60 to account for a 10-year lower average life expectancy compared with America (WHO, 2011). As expected in Trinidad, younger adults ($M = 16.34$, $SD = 3.01$) were more educated than older adults ($M = 12.28$, $SD = 4.30$), $t(97.01) = 6.53$, $p < .001$. There were no life phase differences in subjective health (young $M = 4.94$, $SD = .74$; old $M = 5.10$, $SD = .72$), $t(164) = .19$, $p > .05$. Participants were compensated with research credits (young only) or TT\$100 (\$15.00 US).

As expected, Americans had more years of education, $t(350) = 6.07$, $p < .001$, and higher subjective health, $t(350) = 2.85$, $p < .05$, than Trinidadians. Although all younger adults were university students and in a similar “life phase”, those in America were younger than in Trinidad, $t(195) = 10.65$, $p < .001$. This is likely because the university in Trinidad has an evening/part-time undergraduate program which caters to non-traditional-aged students. This is also probably why unexpectedly younger Trinidadians had a higher level of education than younger Americans, $t(195) = 3.30$, $p < .001$. Trinidadian students had completed one degree (e.g., technical school) and were earning a second, something that has become common since tertiary education was made free to all citizens in 2006. As expected given the lower life expectancy, older Trinidadians were younger than older Americans, $t(137) = 7.06$, $p < .001$. They also had lower education levels, $t(138) = 14.58$, $p < .001$. These differences provide a glimpse of the complexity of establishing equivalency across cultures, even for variables as clear as age and years of education.

Procedure and Measures

Data was collected as part of larger studies with similar procedures across cultures. It took about 30 minutes. Groups of two to ten participants were seated in university or community (e.g., public library) rooms. Female assistants used standardized scripts to guide participants through measures, giving adequate time for completing each. A demographics questionnaire was first, followed by the measure of the functions of autobiographical memory, which included one’s overall frequency of thinking and talking about the past, and the personality measure.

Demographics—A questionnaire assessed participants’ age, gender, ethnicity, and years of education and subjective health, which were considered as potential control variables. Subjective health was measured on a 6-point Likert-scale (1 = *very poor*; 6 = *very good*) compared with own-age peers (Maddox, 1962).

Functions of autobiographical memory—The 15-item TALE (Bluck & Alea, 2011) assesses how often participants use autobiographical memory to serve self-continuity, social-bonding, and directing-behavior functions. The self-continuity function subscale assesses the frequency with which individuals think and talk about the past to consider whether they have changed or remained the same over time (α American = .83, Trinidadian = .85). The social-bonding function subscale assesses the extent to which individuals use memory to initiate and sustain social bonds (α American = .74, Trinidadian = .79). The directing-behavior function subscale assesses the frequency with which individuals use memory to guide present and future decisions (α American = .78, Trinidadian = .83). Responses are on a 5-point Likert scale; 1 = *almost never* and 5 = *very frequently*.

Personality traits—The 44-item Big Five Inventory (BFI, John & Srivastava, 1999) assesses extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. Responses are made on 5-point Likert scales; 1 = *disagree strongly* to 5 = *agree strongly*. Cronbach's α 's were good in both samples (extraversion: American = .82, Trinidadian = .77; agreeableness: American = .80, Trinidadian = .74; conscientiousness: American = .83, Trinidadian = .78; neuroticism: American = .85, Trinidadian = .80; openness to experience: American = .82, Trinidadian = .72).

Overall tendency to think and talk about the past—Individuals' overall tendency to think about (i.e., “How often do you think back over your life?”), and to talk about (i.e., “How often do you talk to others about what's happened in your life so far?”) the past was assessed with the first two items from the TALE. These are not function-related questions. Responses are made on a 5-point Likert scale; 1 = *almost never* and 5 = *very frequently*.

Results

Preliminary Analyses

Preliminary correlational analyses (see Table 1) were conducted to identify culture and life phase differences in social indicators (education level, health status) that should be controlled. Gender was unrelated to study variables and not considered further. Being from Trinidad, as expected, was associated with having a lower level of education and subjective health. Being older was associated with higher levels of education and subjective health. Education and subjective health were also related to several personality traits, and both were inversely associated with using autobiographical memory for self-continuity. Thus, education and subjective health were included as control variables in all analyses.

Preliminary analyses also served to highlight person-specific predictors (five personality traits, overall tendency to think and talk about the past) to be included in regressions. Two criteria were used in retaining a variable: it should relate to memory function, and to either culture or life phase. As seen in Table 1, agreeableness was negatively and neuroticism positively related to the self-continuity function. Extraversion was positively and conscientiousness negatively related to the social-bonding function. These personality traits were also related to life phase. Thus, agreeableness and neuroticism were included in the self-continuity function, and extraversion and conscientiousness in the social-bonding function analyses. One of our study expectations was that openness to experience would relate to self and directive functions. However, openness was not related to any of the memory functions (nor to culture or life phase) in the current study. This may be a result of using the BFI (John & Srivastava, 1999) in the current work versus the NEO-Five Factor Inventory (Costa & McCrae, 1992) in previous work (e.g., Rasmussen & Berntsen, 2010). Even so, openness to experience is not considered further. Also, none of the personality traits were related to the directing-behaviour function of autobiographical memory, and thus personality was not included in this regression analysis. For completeness, analyses with all personality traits as predictors, as well as interactions with culture and life phase, were conducted but results were consistent with what is reported. Overall thinking and talking about the past were related to all three of the memory functions, and talking about the past

was related to culture. Thus, both were included in analyses as person-specific predictors. Descriptive statistics for the functions of memory, and person-specific variables (personality, overall thinking and talking) by culture and life phase are reported in Table 2.

Primary Analyses

Three hierarchical regression analyses were conducted. The criterion variables were the three function subscales from the TALE. Level of education and subjective health were always control variables in Step 1. Culture (American, Trinidadian) and life phase (younger, older), as well as a culture x life phase interaction term was entered in Step 2 of all analyses to address the first two study aims. Step 3 and 4 addressed study aim three. Step 3 included personality traits identified in the Preliminary Analysis section for the self-continuity (neuroticism, agreeableness) and social-bonding functions (extraversion, conscientiousness), as well as interactions with culture and life phase. The final step of each regression model included overall thinking and talking about the past, and the interaction with culture and life phase, as predictors of memory functions. Interaction terms were entered as unstandardized cross-product residuals to avoid multicollinearity (Aiken & West, 1991). Three-way interactions (e.g., overall thinking x culture x life phase, etc.) as well as interactions with social indicators were considered (e.g., culture x education, etc.) in preliminary analyses, but results are consistent with what is reported. Effect size interpretations for $\beta = .10$ small, $.30$ medium, and $.50$ large (Field, 2013).

Self-continuity function—Results are in Table 3. Control variables accounted for 4% of the variance in the self-continuity function, $R^2 = .04$, $F(2, 324) = 7.37$, $p = .001$. Having more years of education and better subjective health was related to less often using memory for self-continuity. Beyond controls, culture, life phase, and their interaction together explained an additional 3% of variance, $R^2 = .07$, $F(3, 321) = 3.13$, $p < .05$. Contrary to expectations, culture was not a significant predictor. Life phase was: as expected, older adults were less likely than younger adults to use the past for self-continuity. The effect size was small to moderate. There was no culture x life phase interaction.

The personality predictors of neuroticism and agreeableness, and their interactions with culture and life phase, entered in Step 3 only explained an additional 2% of the variance, which was not significant, $R^2 = .09$, $F(6, 315) = 1.09$, $p > .05$. Thus, although there were zero-order correlations between neuroticism and agreeableness, and the self-continuity function of autobiographical memory, when controlling for education and subjective health, as well as culture and life phase, these relations were no longer significant.

In Step 4, overall thinking and talking about the past, and their interactions with culture and life phase, together explained an additional 10% of the variance in the self-continuity function, $R^2 = .19$, $F(6, 309) = 6.49$, $p < .001$. As seen in Table 3, greater overall thinking about the past (but not talking about the past) was related to more frequently using the past for self-continuity. This effect was modified by cultural context. To deconstruct the interaction, partial correlations (i.e., controlling for education, subjective health, age, neuroticism, and agreeableness) were conducted to examine the relation between overall thinking about the past and the self-continuity function in Americans and Trinidadians

separately. Americans had no relation between the overall tendency to think about the past and the use of memory for self-continuity, $r_p(160) = .12, p > .05$. For Trinidadians, individuals who more frequently think about their past overall, more frequently used their past for self-continuity, $r_p(153) = .42, p < .001$. The effect was four times as large. Thus, life phase context and the extent to which Trinidadians think about the past predicts how often memory was used for self-continuity.

Social-bonding function—Results are in Table 4. Beyond control variables, which were not significant predictors, $R^2 = .00, F(2, 324) < 1.00$, culture and life phase context, and their interaction, together explained 3% of the variance in the social-bonding function, $R^2 = .03, F(3, 321) = 3.37, p < .05$. Both culture and life phase were predictors, although effects are small in magnitude. As expected, Trinidadians were less likely to use the past for social-bonding than Americans. However, across cultures, older adults were less likely to use the social-bonding function than younger adults. Contrary to expectations, the culture x life phase interaction was not significant.

Personality traits, and their interactions with culture and life phase, entered in Step 3, together explained an additional 5% of the variance, $R^2 = .08, F(6, 315) = 2.30, p < .01$. As seen, the relation for extraversion was as expected, and small to moderate in size: higher levels of extraversion were related to more frequently using the past for social-bonding. An opposite pattern, though small in magnitude, emerged for conscientiousness: higher levels of conscientiousness were associated with less frequently using memory for social-bonding. These relations held across culture and life phase as interactions were not significant.

In Step 4 of the model, overall thinking and talking about the past, and their interactions with culture and life phase, explained an additional 14% of the variance in the social-bonding function, $R^2 = .22, F(6, 309) = 9.31, p < .001$. The more frequently a person thinks and talks about the past, the more likely they were to use memory for social-bonding. The relation was larger for talking about the past, as expected. These person-specific tendencies to think and talk about the past did not interact with culture or life phase. In sum, the cultural context of Trinidad and of older adulthood, and the person-specific traits of extraversion, conscientiousness, and overall thinking, but especially talking about the past was related to using memory more often for social-bonding.

Directing-behaviour function—Results are in Table 5. Control variables did not explain a significant amount of variance, $R^2 = .01, F(2, 324) < 1.00$. In Step 2, culture and life phase context, and the interaction, explained an additional 5% of the variance in the directing-behavior function, $R^2 = .06, F(3, 321) = 6.05, p = .001$. Contrary to expectations, cultural context was not a significant predictor. As expected, life phase was: older adults were less likely to use autobiographical memory for directing-behavior compared with younger adults. This was the largest life phase effect, and occurred regardless of culture as the interaction was not significant.

Recall that personality traits were not included as predictors for the directing-behaviour function. Thus, Step 3 in the model, included the person-specific tendencies to think and talk about the past, and the interactions with culture and life phase. Together these variables

explained an additional 15% of the variance, $R^2 = .21$, $F(6, 315) = 9.66$, $p < .001$. Although the effect was larger for thinking about the past, both thinking and talking were predictors: the more individuals think and talk about the past, the more frequently they used the past for directing behaviour. The relation for thinking about the past was moderated by cultural context. The interaction was deconstructed with partial correlations (controlling for education, subjective health, age) separately for each culture. There was a significant relation between one's overall tendency to think about the past and the directing-behavior function for both Americans, $r_p(162) = .22$, $p < .01$, and Trinidadians, $r_p(155) = .44$, $p < .001$. However, the size of the association was twice as large for Trinidadians. Thus, young adulthood, and the person-specific tendencies to think and talk about the past, but especially thinking about the past in the Trinidadian cultural context, was related to more often using the past to direct behavior.

Discussion

The current study examined whether culture and life phase context, and person-specific characteristics relate to the functional use of autobiographical memory. It is the first to examine the frequency of remembering the personal past to serve self, social, and directive functions in a sample from Trinidad, compared with America. Three major patterns emerged.

Social-bonding Function: Multiple Contextual and Individual Predictors

Culture, life phase, and person-specific variables predicted how frequently the past was used for social-bonding. Being American, young, extroverted but not conscientious, and thinking and talking about one's past were related to using memory to serve this function. Effects were equal in size, though small in magnitude. Thus, there seems to be multiple small influences on how often people report using the personal past for social-bonding.

As expected, Americans reported using the past more often for social-bonding than Trinidadians. This was not due to higher levels of extraversion. Instead, we believe that it is due to cultural values in Trinidad which create extensive social networks. Extended families, for financial or security reasons, often live together in Trinidad (St. Bernard, 2003), and the Trinidadian "lime" keeps social networks strong (Erikson, 1990). Thus, Trinidadians may not need to rely on autobiographical memory for social bonding to the same extent that Americans do.

Across both cultures, autobiographical remembering was used less often for social-bonding in old age than in young adults. The majority of older adults' relationships are with individuals who have lived through events with them as part of their social convoy across time (Antonucci & Akiyama, 1987). This may be particularly true in a close-knit social country like Trinidad. Thus, older adults may have less need to share the past with others explicitly for social-bonding because the people in their social networks know the events that have happened to them. Our findings are contrary to work from other cultures and those using narratives to assess function. For example, in an American sample, Bluck and Alea (2009) also using the TALE, found no age group differences in the social-bonding function. The TALE does not distinguish between using memory to form new relationships versus

sustaining existing ones (Bluck, et al., 2005). However, differentiating using memory for different social reasons (e.g., Harris, Rasmussen, & Berntsen, in press) may lead to different age group patterns.

We also found that individuals higher in extraversion were more likely to use the past for social-bonding. Extraverted individuals value positive social relationships (John & Srivastava, 1999) and were thereby expected to draw on their autobiographical past as a resource in meeting their social goals. Conscientiousness also emerged, unexpectedly, as a predictor: lower conscientiousness was related to greater use of the past to initiate and sustain social bonds. Conscientious individuals are goal-driven (John & Srivastava, 1999): conscientious individuals may tend to share factual memories (Baddeley & Singer, 2008) for instrumental reasons, rather than sharing emotional stories of the past that serve to strengthen social bonds.

Life Phase Context Supersedes Cultural Press on Memory Function

Across American and Trinidadian cultures, younger people used memory more often to serve all three functions. This finding implies that there are similarities in demands exerted by one's life phase across these two cultures, at least for these three functions of autobiographical memory (see Webster, 1997). The press of life phase developmental tasks to use memory to serve functions was not moderated by cultural context, nor were there interactions with person-level factors. The largest effect was for the directing-behaviour function. In young adulthood there is a need to make goals and plans that set one's life trajectory (e.g., Ebner et al., 2006), and those who see their future as open-ended more frequently use their personal past to direct their behaviour (Bluck & Alea, 2009). Though older adults certainly still have a future and make plans, using memory to direct one's behaviour seems to be salient for young adults, regardless of their culture.

Younger adults in America and Trinidad were also more likely than older adults to remember the personal past for self-continuity. Achieving a sense of self is a salient task as one enters young adulthood (Arnett, 2000; Erikson, 1968; Habermas & Bluck, 2000). In this phase, autobiographical memory may be used, across cultures, to help younger adults continue to thread together who they have been with and who they are becoming. Our previous research suggests that older adults, in America for example, have a clearer sense of their self-concept and, as a result, draw less on memory for the self-continuity function (Bluck & Alea, 2009). Related, Wang and Conway (2004) also found that memories from young adulthood were more likely to have a self-orientation compared with memories from later in life in both American and Asian sample. Thus, although we expected that Americans would be more likely than Trinidadians to use autobiographical memory for the self function, only life phase differences were found. This may be a reflection of our measure of the self function, which is about continuity. Measures that focus on using memory to define one's self, as independent or interdependent, for example, may be more likely to show cultural differences. Thus, when asking individuals whether they use memory to examine whether they have remained the same or changed over time, like we did, might not tap in to the view that a person has of themselves, and only assesses whether that view – whatever it might be – is consistent across time.

Self and Directive Functions: Thinking about the Past in Trinidad and America

As expected, the overall extent to which an individual thinks back about their personal past was related to their frequency of using their past to serve the three functions. There was variation by cultural context, however, for the self and directive functions. For Americans, there was no relation between thinking about one's personal past and using the past for self-continuity. There was, however, for the directive function. The more that Americans thought about the past, the more likely they were to use it for directing behaviour. The same result was found for Trinidadians but the effect size for the relation between overall thinking and the directive function was twice as large. Thinking about the past had a strong relation to how often the past was used for the self-continuity and, as expected, directing-behaviour function in Trinidad. These effects were not a result of cultural differences in the frequency of thinking about the past. It may be, however, that Americans think about the past for other functional reasons not measured with the TALE (e.g., conversation, generativity; Harris, et al., in press; Webster, 1997) as well as non-functional ones (e.g., remembering an event because it is recent; Kulkofsky, et al., 2010), resulting in an orthogonal relation between overall tendency to think about the past and functional memory use. Non-instrumental thinking about one's past may be less common in Trinidad. If the past is thought about often, it is to reap the functional benefits of maintaining self-continuity and for directing behaviour. Future research should incorporate questions concerning overall thinking and talking about one's past (Bluck & Alea, 2009) to assess cultural differences and intra-cultural relations with variables of interest.

Limitations and Future Directions

The current research, for the first time, compared data from Trinidad with data from America on the three functions of autobiographical memory, but the study is not without limitations. The definition used for 'old' for Trinidadians included individuals > 50, rather than the more typical 60 year-old demarcation. This may have influenced results for the social bonding function, where a culture by life phase interaction was expected though not found. Averaged together, the older adult sample may have not been 'old' enough, and thus older adults, regardless of culture, were less likely to use memory for social bonding. Conversely, although all were university students (typical or evening/part-time), the younger adults in the Trinidad sample were older than the younger adults in the American sample. Thus, culture and life phase are co-varying. This co-variation might also be the reason why we did not replicate previous work showing that the directing-behaviour function is common in Trinidad (Alea & Bluck, 2013; Alea, in press). The current Trinidadian sample was older overall (and within each age group) compared with previous work, and younger age groups more often use the directive function (e.g., Bluck & Alea, 2009; Webster & McCall, 1999). Thus, future work needs to be more cautious about matching age ranges across cultural contexts. Related, future researchers should also be more methodical in ensuring that measures used to assess constructs are similar across studies in different cultures (e.g., BFI versus NEO-FFI). Otherwise we will not know if discrepant findings (e.g., our not finding a relation between openness to experience and memory function) are due to cultural or methodological differences.

A limitation related to life phase findings is that functions outside of the tripartite model were not assessed. For example, the TALE (Bluck & Alea, 2011) assesses social-bonding overall without separate subscales for developing, maintaining, repairing such bonds, or with reference to who the bonds are with (friends, family, living or dead). As such, more fine-grained analysis of social functions of remembering is warranted (Alea & Bluck, 2003; Harris, et al., in press) in future research. This may be the case for other memory functions. For example, younger adult may use autobiographical memory to develop self-continuity, whereas older adults use it to maintain a sense of self. Use of the TALE (Bluck & Alea, 2011) in combination with content-coding of memories (e.g., Kulkofsky et al., 2010) may be a way to clarify life phase effects.

Culture was measured as nation, but it is more than where someone was born and lives: it encompasses attitudes, beliefs, values, and behaviors within the cultural context (Hofstede, 2001). Although we did find that individuals with more years of education and those with better subjective health (socio-cultural indicators) were less likely to use the past for self-continuity, this finding was regardless of culture. Exploratory interactions between these social indicators and culture were also not significant. The finding therefore suggests that across cultures, social indicators, like education, health, and occupation may relate to how a person sees themselves and reflects on the past (e.g., Marsh & Craven, 2006; Wiley et al., 2008); something that warrants future investigation. In our data at least, the relation between education and subjective health, and the self-continuity function, were no longer significant when age group and personality were included in the regression model suggesting that there is a complicated concomitant relation with societal indicators, life phase, and person-specific predictors (as seen in Table 1). To move beyond speculations, future research should identify specific, proximal predictors that vary by culture, like family ties and living arrangements, or specific psychological values (Schwartz, 1992) that might predict the reasons why people use the past in their daily life.

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Table 1

Correlations among all study variables.

	Contextual			Demographic			Person-specific			Memory functions					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Contextual variables															
1. Culture	--	-.09	.08	-.31**	-.15**	-.05	-.17**	-.09	.02*	.10	.07	-.03	.10	-.12*	.02
2. Life phase	--	--	.01	.26**	.15**	-.02	-.00	.14*	.26*	.18**	-.30**	.09	-.22**	-.11*	-.24**
Demographic variables															
3. Gender	--	--	--	.13*	-.17**	.04	.04	-.00	-.09	-.03	-.03	.07	.04	-.01	.03
4. Education	--	--	--	--	.10	-.03	.07	.09	-.02	.07	-.13*	.25**	-.16**	.01	-.07
5. Health	--	--	--	--	--	-.09	-.04	.16**	.20**	.18**	-.31**	.13*	-.14*	.02	-.02
Person-specific variables															
6. Think about past	--	--	--	--	--	--	.31**	.07	.03	-.11	.16**	.14*	.31**	.28**	.32**
7. Talk about past	--	--	--	--	--	--	--	.33**	.03	-.06	-.07	.08	.15**	.38**	.22**
8. Extraversion	--	--	--	--	--	--	--	--	.16**	.14*	-.29**	.23**	.04	.15**	.06
9. Agreeableness	--	--	--	--	--	--	--	--	--	.26**	-.47**	.00	-.12*	-.01	-.08
10. Conscientiousness	--	--	--	--	--	--	--	--	--	--	-.17**	.19**	-.07	-.15**	.07
11. Neuroticism	--	--	--	--	--	--	--	--	--	--	--	.14*	.18**	.01	.10
12. Openness	--	--	--	--	--	--	--	--	--	--	--	--	.01	.10	.10
Memory functions															
13. Self-continuity	--	--	--	--	--	--	--	--	--	--	--	--	--	.29**	.53**
14. Social-bonding	--	--	--	--	--	--	--	--	--	--	--	--	--	--	.42**
15. Directing-behaviour	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note. Culture: 0 = America; 1 = Trinidad, Age: 0 = young, 1 = old; Gender: 0 = male, 1 = female

* $p < .05$,

** $p < .01$

Table 2
Means and SDs for memory function and person-specific variables by culture and life phase

	<u>Americans</u>				<u>Trinidadians</u>			
	<u>Young</u>		<u>Old</u>		<u>Young</u>		<u>Old</u>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Memory functions								
Self-continuity	3.00	.90	2.55	.77	3.06	.87	2.80	.89
Social-bonding	3.27	.80	3.16	.71	3.17	.81	2.88	.69
Directing-behaviour	3.60	.80	3.26	.68	3.63	.71	3.23	.79
Person-specific variables								
Extraversion	27.29	5.32	28.61	6.45	26.14	5.71	27.68	5.01
Agreeableness	34.31	5.71	36.65	5.62	33.99	5.32	37.63	5.57
Conscientiousness	32.85	5.52	35.59	6.18	34.32	5.69	36.17	4.96
Neuroticism	23.01	6.24	18.28	6.58	22.78	6.38	20.24	5.76
Open to Experience	36.89	6.84	40.29	5.89	38.79	5.16	36.86	5.38
Thinking about past	3.99	.78	3.95	.78	3.93	.83	3.88	.85
Talking about past	3.45	.87	3.46	.86	3.18	1.07	3.10	.74

Table 3

Regression coefficients for culture, life phase, and person-specific predictors, and interactions, for the self-continuity function of autobiographical memory

	β	<i>SE</i>	<i>beta</i>	<i>t</i>
1. Education	-.03	.01	-.14	-2.59**
Subjective health	-.16	.06	-.14	-2.52**
2. Culture	.06	.11	.03	.54
Life phase	-.30	.10	-.17	-2.98**
Culture x life phase	-.00	.25	-.00	-.01
3. Neuroticism	.01	.01	.08	1.19
Agreeableness	-.00	.01	-.03	-.44
Culture x Neuroticism	.03	.02	.10	1.57
Culture x Agreeableness	-.01	.02	-.03	-.46
Life phase x Neuroticism	.01	.02	.04	.60
Life phase x Agreeableness	.01	.02	.04	.65
4. Overall thinking	.27	.06	.25	4.43***
Overall talking	.10	.05	.10	1.85
Culture x thinking	.30	.12	.14	2.50**
Culture x talking	.03	.11	.02	.26
Life phase x thinking	.08	.12	.04	.62
Life phase x talking	.10	.12	.05	.82

Note. R^2 for Step 1 = .04***, Step 2 = .03*, Step 3 = .02, Step 4 = .10***

* p .05,

** p .01,

*** p .001.

Table 4

Regression coefficients for culture, life phase, and person-specific predictors, and interactions, for the social-bonding function of autobiographical memory

	β	<i>SE</i>	<i>beta</i>	<i>t</i>
1. Education	.00	.01	.02	.34
Subjective health	.02	.06	.02	.33
2. Culture	-.19	.10	-.13	-2.02*
Life phase	-.20	.09	-.13	-2.19*
Culture x life phase	-.24	.22	-.08	-1.09
3. Extraversion	.02	.01	.17	3.08**
Conscientiousness	-.02	.01	-.13	-2.21*
Culture x Extraversion	-.02	.02	-.06	-1.09
Culture x Conscientiousness	.02	.02	.08	1.37
Life phase x Extraversion	.00	.02	.01	.09
Life phase x Conscientiousness	.01	.02	.03	.60
4. Overall thinking	.18	.05	.19	3.48***
Overall talking	.25	.05	.29	5.13***
Culture x thinking	.04	.10	.02	.36
Culture x talking	-.08	.09	-.05	-.78
Life phase x thinking	-.07	.11	-.04	-.71
Life phase x talking	-.08	.11	-.04	-.73

Note. R^2 for Step 1 = .00, Step 2 = .03*, Step 3 = .05**, Step 4 = .14***

*
 p .05

**
 p .01,

 p .001.

Table 5

Regression coefficients for culture, life phase, and person-specific predictors, and interactions, for the directing-behaviour function of autobiographical memory

	β	<i>SE</i>	<i>beta</i>	<i>t</i>
1. Education	-.01	.01	-.06	-1.10
Subjective health	-.01	.06	-.01	-.22
2. Culture	-.01	.09	-.01	-.13
Life phase	-.37	.09	-.24	-4.13***
Culture x life phase	-.09	.22	-.03	-.41
3. Overall thinking	.25	.05	.27	5.02***
Overall talking	.14	.04	.16	3.05**
Culture x thinking	.24	.10	.13	2.39*
Culture x talking	-.10	.09	-.06	-1.08
Life phase x thinking	-.00	.10	-.00	-.04
Life phase x talking	.16	.10	.09	1.56

Note. R^2 for Step 1 = .01, Step 2 = .05***, Step 3 = .15**. Personality predictors and interactions were not included in this model as there were no zero-order correlations.

*
p .05

**
p .01,

p .001.