The International Journal of Reminiscence and Life Review
2017, Volume 4, Issue 2, pp. 67-78
http://143.95.253.101/~radfordojs/index.php/IJRLR

Special Section: Reminiscence through a Cultural Lens

What I Value and Why I Remember: Values and the Functions of Memory in a Trinidadian Lifespan Sample

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This study examined whether values predict the functional uses of memory by culture (ethnicity) and life phase. Participants were Trinidadian adults (N = 294) ranging from 18 to 81 years old, and representative of the island's three major ethnic groups: Afro-, Indo-, mixed-Trinidadian. Values were assessed as conservation (valuing tradition), self-transcendence (valuing social welfare), and self-enhancement (valuing achievement). Three functions of autobiographical memory were assessed: self-continuity, directing-behavior, and social-bonding. Values predicted functions: conservation and self-transcendence were positively related to the directing-behavior function, and conservation was positively related to using memory for social-bonding. Ethnicity and age moderated some relations. The positive relation between self-transcendence and the directing-behavior function existed for both Indo- and Afro-Trinidadians but not for mixed-Trinidadians. The positive relation between conservation and the social-bonding function existed for both young and older adults but not middle-aged adults. The discussion highlights the importance of examining how values press upon people of different cultures and age groups to use memory in particular ways, addresses limitations, and suggests that future work on the value-function link includes longitudinal and experimental work as well as individuals of mixed cultural heritage.

Keywords: Autobiographical Memory; Function; Culture; Aging; Values

In cultures around the world, from childhood to old age, the personal past is reflected upon often in daily life and is frequently shared with others, but *why?* Why do people reminisce about the personal past: what function does it serve? A number of reasons have been proposed (e.g., Cohen, 1998; Harris, Rasmussen, & Berntsen, 2014; Hyman & Faries, 1992; Pillemer, 1992), but in the current study we focused exclusively on the taxonomy of the three broad self, directive, and social autobiographical memory functions (e.g., Bluck & Alea, 2002, 2011). The *self*, or identity function (Webster, 1993, 1997), involves remembering the personal past to better understand one's self (e.g., Baddeley, 1988), to speculate about who one would like to become, and to consider whether one has stayed the same or changed over time (i.e., self-continuity; e.g., Barclay, 1996; Bluck & Alea, 2008). The *directive* function involves remembering the personal past in an effort to problem solve (Webster, 1993, 1997), to guide current behavior (e.g., Baddeley 1988), and to plan for future experiences (e.g., Baddeley, 1988; Pillemer, 2003). The *social* function (e.g., Alea & Bluck, 2003) involves remembering the personal past for social-bonding reasons: to initiate and maintain relationships (Alea & Bluck, 2007; Neisser, 1978) by thinking about friends and loved ones (e.g., Webster's 1993, 1997, intimacy maintenance function), or by sharing memories with others as a way to form and sustain intimate bonds (e.g., Rasmussen & Berntsen, 2009; Pasupathi, Lucas, & Coombs, 2002).

These functions of remembering the personal past, consistent with the theme of this Special Section, vary by culture (e.g., Alea & Wang, 2015; Ross & Wang, 2010) and also by life phase (e.g., Alea & Bluck, 2007; Bluck & Alea, 2009; Webster & McCall, 1999). The presumption is that these contexts press upon individuals (Bluck, Alea, & Demiray, 2010) to use memories from the personal past in ways that align with what they value (Alea & Wang, 2015). However, this value-function link has not been directly examined. Thus, the goal of the current work is to examine whether: (i) holding specific values predicts the extent to which people use self, directive, and social functions of memory, and (ii) whether the pattern of relations depends upon culture and life phase.

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A portion of this research was funded by a grant (CRP.5.NOV09.2) from the Campus Research and Publication Fund at the University of the West Indies, St. Augustine awarded to Sideeka Ali.

Cultural Values and Why I Remember

Western, particularly American, cultures value the need to create and define a self that is unique and independent from others. Eastern cultures, on the other hand, hold different values about the self: the self is someone in relation to others (Markus & Kitayama, 1991). This value difference in self-definition has been used to account for cultural differences in the frequency of remembering the personal past for self-related functions (e.g., Wang & Ross, 2007). People in European-American, compared to Asian cultures, more often reflect on the personal past for self-related functions (e.g., Wang & Conway, 2004; Maki, Kawasaki, Demiray & Janssen, 2015). The presumption is that remembering the personal past to define and understand oneself is in line with what the European-American culture values, and so memory is used more often, compared to Asian societies, to meet this need.

A similar value-function link seems to exist for the directive function. For example, in Chinese society, Confucianism encourages, among other values, reflection on lessons that have been learned from the past and implementing those lessons in present-day life (Yao, 2000). Wang and Ross (2007) suggested that this valuing of lessons learned is perhaps one reason why Chinese adults use the personal past more frequently than European-American adults to direct their behavior (e.g., Wang & Conway, 2004). Trinidadians also reflect on the personal past to direct their decisions and behaviours more often than European-Americans (Alea, Bluck, & Ali, 2015), but the proposed rationale is different. Alea and colleagues (2015) suggested that in developing societies, difficult socio-economic circumstances (e.g., crime, poverty, etc.) mean that individuals need to quickly and more heavily rely on life experiences to direct behavior.

Although developing and maintaining social relationships is essential (Baumeister & Leary, 1995), cultures differ in the value placed upon this basic human need. For example, cultures that tend towards collectivism, like Chinese and Caribbean cultures, hold strong values about the need to foster, not only immediate familial relationships, but more distal relationships, as well as societal harmony (Markus & Kitayama, 1991; Hofstede, 2001). Thus, it would seem that cultures with more collectivist ideals (e.g., benevolence, maintaining social order) should use the social function of autobiographical memory more often. However, the opposite seems to be the case: Asian (e.g., Kulkofsky, Wang, & Koh, 2009; Maki, et al., 2015) and Caribbean cultures (Alea et al., 2015) reflect on the personal past *less* often to form and maintain social bonds compared to European-American cultures. The rationale given for this finding is that cultures that value strong social ties have other mechanisms in place that help to sustain social bonds (e.g., living in extended-kin households), and thus reflecting on the personal past is less needed to do so. In contrast, in European-American societies, autobiographical memory is used more often to help form and maintain social bonds (e.g., remembering loved ones when they are away) because the culture is not as well positioned to help meet this need (e.g., families live apart).

Life Phase Values and Why I Remember

Developmental psychologists have long proposed that different life phases hold different values; for example, the development of a sense of self and an identity is more highly valued in early younger adulthood (Erikson, 1968). Thus, it is not surprising that members of this age group are more likely than older adults to reflect on the personal past for self-related functions (e.g., Bluck & Alea, 2008; Cappeliez, Lavallée, & O'Rourke, 2001; McLean & Lilgendahl, 2008). For example, compared to older adults, Webster and McCall (1999) found that younger adults were more likely to reminisce about the personal past to maintain a sense of identity. This age difference seems to exist in various cultures (e.g., Trinidadians, Alea, et al., 2015; Americans, Bluck & Alea, 2008; Canadians, Webster, 1997).

Values held in different life phases have also been proposed to explain age group differences in using the personal past to direct behavior (e.g., Alea & Bluck, 2013, Alea et al., 2015; Bluck & Alea, 2008, 2009; Webster & McCall, 1999). Young adulthood is a time devoted to setting goals and making plans for one's future adult life (Ebner, Freund, & Baltes, 2006). It is a time when an open-ended view of the future is valued, compared to later in life when the future is viewed as more limited (Carstensen, Isaacowitz, & Charles, 1999). This young adulthood value-orientation is proposed to be one reason why younger adults are more likely than older adults, across a variety of cultures, to reflect on the personal past to guide decisions and behavior (e.g., American, Bluck & Alea, 2009; Trinidadian, Alea & Bluck, 2013) and for problem solving (e.g., Canadian, Cappeliez, et al., 2001).

The pattern of findings for life phase differences in remembering the personal past to develop and sustain social bonds is less clear. Young adulthood is a time when building and developing relationships (i.e., the intimacy versus isolation developmental stage) is valued (Erikson, 1968). The value placed on social relationships later in life is different: during this life phase, maintaining meaningful relationships and optimizing the quality of these relationships are what is valued by older adults (Carstensen et al., 1999). Thus, social relationships seem to be particularly valued during early and late adulthood, though for different reasons: forming relationships in young adulthood and sustaining those relationships in late life. This may be why age group differences in the social bonding function of memory are sometimes not found (e.g., Alea & Bluck, 2007; Bluck & Alea, 2009; McLean & Lilgendahl, 2008) but sometimes are (e.g., Alea et al., 2015; Harris et al., 2013; Webster, 1993).

The Current Study: Values as Predictors of Memory Functions by Ethnic and Age Groups in Trinidad

In most previous work, when culture and life phase differences in the functions of remembering the personal past are found, explanations about those differences are made post hoc. Values held are rarely measured, but are instead *presumed*. One exception in the developmental literature is work by Bluck and colleagues (Bluck & Alea, 2008, 2009; Liao, Bluck, Alea, & Cheng, 2015). Although not measuring values directly, they found, for example, that valuing or wanting to gain self-concept clarity (i.e., to have more clearly defined self-beliefs that are internally consistent and stable; Campbell, Trapnell, Hein, et al., 1996) predicted greater use of the personal past for self-continuity, which was more likely among the younger European-American adults, compared to the older adults (Bluck & Alea, 2008). The younger adults were aligning their use of memory with what they valued. To fill this gap in the literature, values will be explicitly assessed as predictors of the self, directive, and social functions of memory in the current study. It should be noted that it is also possible that the value-function link goes in the other direction: that people use autobiographical memory for particular reasons (e.g., self-continuity) to reinforce the values that they hold (e.g., self-enhancement). The current study cannot distinguish the causal pathway, and only relations are examined, but it is moving the field one step forward by explicitly assessing the value-function link, rather than *presuming* that the values held by different cultural and life phase groups are related to their particular uses of autobiographical memory.

The values we assessed in the current study come from Schwartz' (1992, 2012) value theory, which suggests that there are at least two dimensions of values that encapsulate human motivations: self-transcendence (e.g., benevolence) versus self-enhancement (e.g., power, achievement), and conservation (e.g., tradition, conformity) versus openness to change (e.g., stimulation). Although there are certainly other values that motivate humans (e.g., Hofstede, 2001; Markus & Kitayama, 1991), we chose to focus on Schwartz' values specifically because these values: (i) seem to be universally recognized; (ii) are able to be assessed with a single measure; (iii) differ by both culture (Schwartz, 1992) and life phase (e.g., Lyons, Duxbury, & Higgins, 2007); and (iv) seem to be akin to those discussed in the literature about why there are cultural and life phase differences in the functions of autobiographical memory.

The first value dimension is *self-transcendence versus self-enhancement*. Valuing self-transcendence means that an individual values benevolence, and is concerned with the interest and welfare of others. Contrary to this, is the value of *self-enhancement*, which is valuing one's own interests, power, and achievements. This value dimension is the one most closely associated with speculations in the literature about why there are cultural differences in the self-function of autobiographical memory. Self-enhancement should relate to more often using the personal past for the self function, particularly in cultures that value achievement and power, like individualistic societies. Self-transcendence, on the other hand, should relate to less often using autobiographical memory for the self function, particularly in cultures that value societal over individual wellbeing, like more collectivist cultures. The other value dimension is *conservation versus openness to change*. One end of this dimension, conservation, involves valuing the need to preserve tradition and to conform to the status quo so as not to upset social order, and doing so engenders feelings of security. This is in contrast to openness to change, which is valuing change, particularly change that is in line with an individual's own intellectual and emotional interests. The openness to change end of this value continuum is akin to the openness to experience personality trait which has been shown in the autobiographical memory literature to relate to more often using memory for the directive function (e.g., Rasmussen & Berntsen, 2010). The positive link between openness to change and the directive function of autobiographical memory may be particularly strong among younger adults.

The study was conducted in Trinidad, in the Caribbean. Trinidad provides a unique opportunity to examine the relation between cultural values and why the personal past is remembered within a single society. Trinidad and Tobago is comprised of two major ethnic groups: Afro-Trinidadians (34.22%) and Indo-Trinidadians (35.43%); there is also a large category of ethnically mixed individuals (22.82%; Ministry of Planning and Sustainable Development, 2011). Historical circumstance (see Arneaud & Albada, 2013; Descartes, 2012, for discussions) and within-ethnic group religious affiliation have likely led to diverse values that may vary by ethnic group on the island. For example, in comparison to the other major ethnic groups in Trinidad, Afro-Trinidadians (as well as mixed-Trinidadians), are more likely to be oriented towards the Western individualism typical of Christianity (Seligman, 1997), such as low self-transcendence or high self-enhancement. Indo-Trinidadians may be more oriented toward the Eastern collectivism typical of the Hindu religion (Konsky, Kapoor, Blue, & Kapoor, 2000), such as high self-transcendence or low self-enhancement (cf. Inglehart & Baker, 2000). Mixed-Trinidadians' values are less clearly understood because there is probably not a separate 'mixed' culture on the island. Instead, mixed individuals likely align themselves with one ethnic group, or may simply identify as Trinidadian (Reddock, 1994). Even though it may be hard to speculate on their value orientations, mixed-Trinidadians were included in the current study because they represent approximately one-third of the population of Trinidad. The current study also included a sample ranging in age from 18 to 81, and thus we were able to look at whether values interact with life phase to predict the reasons why the personal past is remembered. Older age groups, for example, tend be more conservative in their values, valuing security and tradition

over hedonism and change, which are more valued by younger age groups (Lyons et al., 2007).

Hypotheses

Our work is exploratory because basic human motivational values have not been explicitly linked to why people remember the personal past. Even so, we were able to make some hypotheses based on the previous tangential work. It was expected that valuing self-enhancement (e.g., valuing power, achievement, etc.), which is a more individualistic ideal, will be related to remembering the personal past more often for self-continuity. This relation should interact with ethnicity and age. The positive relation between self-enhancement values and the self-continuity function should be strongest among Afro-Trinidadians, who supposedly hold more individualistic cultural ideals, and among younger adults who are more self-focused than other age groups. On the other hand, self-transcendence values (e.g., valuing benevolence, universalism, etc.) will be negatively related to using memory for self-continuity, perhaps particularly among Indo-Trinidadians. This value, which is about social welfare, will be positively related to using memory for the social-bonding functions. Conservation values (e.g., tradition, conformity) may also be positively related to the social-bonding function. We also expected there to be a positive link between self-transcendence and the directing-behavior function that will be moderated by ethnicity: it may be particularly strong among Indo-Trinidadians. It was also expected that there would be a negative relation between conservation (which is on the opposite end of the spectrum of openness to change) and using the personal past to direct behavior. This negative relation should be particularly strong among younger adults.

Method

Participants

A lifespan sample of 294 Trinidadian adults participated (age range: 18 to 81 years-old; $M = 32.38$, $SD = 17.08$) including: young (18 – 29 years-old; $n = 189$; $M = 21.73$, $SD = 2.49$), middle-aged (30 – 59 years-old; $n = 66$; $M = 41.77$, $SD = 9.84$), and older adults (60 – 81 years-old; $n = 39$; $M = 68.08$, $SD = 5.22$). Similar to the ethnic distribution of the population (Ministry of Planning and Sustainable Development, 2011), 30% of the sample reported being Afro-Trinidadian (*n*s = 55 young, 28 middle, 12 old), 40% Indo-Trinidadian (*n*s = 82 young, 27 middle, 23 old), and 30% mixed Trinidadian (*n*s = 67 young, 15 middle, 13 old). In our sample overall, reflecting the diversity of religions in the country (Ministry of Planning and Sustainable Development, 2011), 59% of the sample was Christian, 18.6% Hindu, 9.3% Muslim, 7.8% Agnostic/Atheist, and 5.3% reported being an "Other" religion.[1] Participants were recruited via email from list-serves for students and staff at a Trinidadian university, and a participant pool list of community-dwelling older adults. All participants were fairly well educated (M = 15.26 total years of education, $SD = 3.84$). There were no ethnic group differences in education, $F(2, 313) = 2.342$, $p = .098$, but there were differences by age (see Table 1). Psychology student participants were compensated with partial course credit; all others received TT $100.00 (approximately US $15).

Procedure and Measures

Measures were administered in a group setting by female research assistants. After the informed consent, participants completed, in the following order: a brief demographics questionnaire (e.g., age, ethnicity, gender, education, religion) and the two primary measures for the study: a measure of values and a measure of memory functions. Research assistants were available to answer questions, if necessary. The portion of the study used for the current work took approximately 15 minutes.

Values. The Short Schwartz's Value Survey (SSVS; Lindeman & Verkasalo, 2005) is a reliable and valid measure that assesses value motivations by asking individuals from young adulthood to old age to rate the personal importance of 10 values in their lives. These 10 values are thought to represent some of the "universal requirements of human life." (Lindenman & Verkasalo, 2005, p. 170). The values include: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity, and security. To clarify the meaning of the values for participants, each item is followed in parentheses by additional descriptors per Schwartz (1992). For example, the item "hedonism" is further described as "gratification of desires, enjoyment in life, self-indulgence".

Responses are made on a 9-point Likert scale ranging from *opposed to personal value system* (0) to *of supreme importance* (8). A weighted combination of the ratings for all 10 values is often used to form two oppositional value dimensions: self-enhancement versus self-transcendence, and openness to change versus conservation (Lindeman & Verkasalo, 2005). However, in the current study, an exploratory factor analysis (EFA) was conducted to assess whether these value dimensions would also emerge in a

[1] Sample sizes were too unevenly distributed across ethnicity by religious group to include religion as a moderator or substantive variable of interest in the current study (e.g., 91% of Afro-Trinidadians were Christians). Even so, because values are related to religious orientation (Inglehart & Baker, 2000), exploratory analyses were conducted to examine whether there were religious group differences (for the three major religious groups – Christian, Hindu, Muslim) in values, as well as autobiographical memory functions. There were no significant effects. All analyses were also conducted with and without religion as a covariate. Results remained the same. Thus, religion is not considered further.

Trinidadian sample (see Arneaud, Alea, & Espinet, 2016 for a similar approach). Principle axis factor analysis with a promax rotation was used. The scree plot and eigen values > 1.0 suggested three factors, accounting for 66% of the variance. Factor loadings $\geq$ .40 in the pattern matrix were used for interpreting the three factors as: conservation, self-transcendence, and self-enhancement. The conservation subscale (tradition, conformity, and security; α = .75) assesses the extent to which individuals are motivated to follow social norms, at the expense of self-interests, because norms provide a sense of certainty. The self-transcendence subscale (self-direction, universalism, and benevolence; Cronbach's α = .71) assesses the extent to which individuals are motivated to contemplate the welfare of others. Self-direction, at first, seems at odds with this subscale. However, in the context of Schwartz' (1992, p. 9) theory, self-direction refers to "reliance upon one's own judgement and comfort" when considering the universality of others. Thus, it is not self-directed motivations towards selfish interest but towards self-transcending ideals. The self-enhancement subscale (power, achievement, hedonism, and stimulation; α = .70) assesses the extent to which individuals are motivated to pursue self-interests and value superiority over others. Achievement and power are linked to positive emotionally, immediately-gratifying experiences. Responses for items on each subscale were averaged together; a higher number is indicative of the value being more important to the individual.

Functions of remembering the personal past. The Thinking About Life Experiences (TALE; Bluck & Alea, 2011) scale is a 15-item measure that assesses how often someone reflects on the personal past for self, directive, and social functions. It has been validated in a number of different cultures, including the United States (Bluck & Alea, 2011), Germany and Denmark (Rasmussen & Habermas, 2011), and Japan (Maki et al., 2015), and work validating the three-factor structure of the TALE across age, ethnic groups, and gender has also been conducted in Trinidad (Alea & Ali, under review). Responses are made on a 5-point Likert-scale ranging from *almost never* (1) to *very frequently* (5). There are five items on each of three subscales. The following stem precedes all items: ''I think back over or talk about my life or certain periods of my life ...''. The self-continuity function subscale assesses the frequency with which individuals think and talk about the past to determine how much they have changed or remained the same over time (e.g., "when I want to understand how I have changed from who I was before"; α = .83). The directing-behavior function subscale assesses the frequency with which individuals use the past to guide present and future decisions (e.g., "when I believe that thinking about the past can help guide my future"; α = .71). The social bonding function subscale assesses the frequency with which individuals use memory to initiate and maintain social bonds (e.g., "when I want to develop a closer relationship with someone"; α = .74). There are also two separate questions at the beginning of the TALE that ask how often individuals think about the past and talk about the past, in general. These two items were averaged together to assess general reminiscing as a possible covariate.

Results

Hayes' (2013) PROCESS macro in SPSS was used to conduct moderation analyses (Model 1). Analyses were conducted for each value dimension (conservation, self-enhancement, self-transcendence) as a predictor with one of the three functions of autobiographical memory (self-continuity, directing-behavior, social-bonding) as an outcome. Analyses were conducted with ethnicity or age as the moderator.[2] Each analysis used 10,000 bootstrapped samples, and interaction terms were mean centered (Hayes, 2013). Moderators were entered as multicategorical variables (Hayes & Montoya, in press) using effect coding for ethnicity (i.e., contrast 1: Afro-Trinidadian = -1, Indo-Trinidadian = 1, Mixed-Trinidadian = 0; contrast 2: Afro-Trinidadian = -1, Indo-Trinidadian = 0, Mixed-Trinidadian = 1) and sequential coding for age group (i.e., contrast 1: young = 0, middle = 1, old = 1; contrast 2: young = 0, middle = 0, old = 1). Regardless of whether contrast 1 or 2 for ethnicity or age group, or their interaction with values, was significant, it was followed up with all possible pairwise tests so that specific differences between groups could be identified. Further, interactions were deconstructed only if the change in R^2 due to the interaction effects was significant and at least one specific conditional effect was also significant. Interaction effects with values were deconstructed by using the mean of the value, plus or minus 1 *SD* unit and were interpreted along the value dimension (i.e., self- conservation, self-enhancement, self-transcendence). Effect size interpretations for the follow-up tests are: .10 = small, .30 = medium, .50 = large; Hayes, 2013). To control for Type I error inflation, effects were only interpreted for models with overall R^2 *p*-values $\leq$ .001.

Correlations were conducted to identify possible covariates. As seen in Table 1, gender was correlated with two memory functions (self-continuity, directing-behavior) and self-transcendence values, with higher levels among women compared to men on all variables. Education was negatively related to age and positively related to self-enhancement values. Further, general reminiscing was positively related to all three memory

[2] Due to sample size limitations age and ethnicity could not be entered simultaneously as moderators in regression analyses. This seems appropriate since no specific hypotheses were made about Values x Ethnicity x Age Group interactions.

Table 1

Full Correlation Matrix for Study Variables

		1	2	3	4	5	6	7	8	9	10	11	12	13
Afro- vs. Indo-Trinidadian	1	--	.[a]	.[a]	-.02	-.13*	-.12	-.02	-.01	-.09	-.00	.05	-.06	-.02
Afro- vs. Mixed-Trinidadian	2		--	.[a]	.08	.10	.14*	.03	.14	.15*	-.03	-.02	.06	.04
Indo- vs. Mixed-Trinidadian	3			--	.05	-.04	.00	.01	.13*	.06	-.04	.03	.00	.02
Age	4				--	-.09	-.26***	.05	-.12*	-.18***	-.06	-.19***	-.27***	-.06
Gender	5					--	.09	.14**	.13*	.07**	.03	.06	.00	.17**
Education	6						--	.03	-.08	.05	-.05	-.06	.14**	.10
General reminiscing	7							--	.34***	.39***	.36***	.18***	.06	.23***
Self-continuity function	8								--	.55***	.43***	.08	.13*	.15**
Directing-behavior function	9									--	.59***	.21***	.15**	.27***
Social-bonding function	10										--	.18***	.07	.18***
Conservation values	11											--	.22***	.49***
Self-Enhancement values	12												--	.36***
Self-Transcendence values	13													--

Notes. Afro- (0) compared to Indo-Trinidadian (1); Mixed- (0) compared to Indo-Trinidadian (1); Mixed- (0 compared to Afro-Trinidadian (1); Gender: 0 = male, 1 = female.

[a] Correlations could not be computed because at least one of the variables is a constant.

*$p \leq .05$, **$p \leq .01$, *** $p \leq .001$

functions and also to conservation and self-transcendence values. Thus, covariates in all models were gender (male = 0, female = 1), education, and general reminiscing. Relations between the values, moderators, and autobiographical memory functions are not interpreted from the correlation matrix, but in the moderation analyses, which included these covariates. The other covariate included in all models was the other moderator that was not being tested (i.e., in the model testing ethnicity as a moderator, age was a covariate, and vice versa).

Results are presented for each memory function separately, rather than by analysis to avoid repetition since some effects (e.g., ethnicity, age) would have been tested in all models. Results for these repeated effects are for the models with conservation values, unless otherwise noted, because the results were consistent regardless of which value or moderator was included in analyses. Age effects are presented from the models with age group as a moderator. Full statistical results for each analysis separately can be requested from the authors. Coefficients for covariates are removed for parsimony.

Values and the Self-continuity Function

Table 2 provides a summary of the coefficients across models examining whether values (conservation, self-enhancement, self-transcendence) predicted the self-continuity function of autobiographical memory, and whether ethnicity or age group moderated these relations. All of the models were significant at $p < .001$, with overall variance explained around 17% (i.e., R^2 ranged from .166, $F(9, 293) = 5.78$, for the model with self-enhancement values and age group as the moderator, to .173, $F(9, 293) = 6.56$, for the model with conservation values and ethnicity as the moderator). Contrary to expectations, there was not a positive relation between self-enhancement and the self-continuity function, nor a negative relation between self-transcendence and the self-continuity function. In fact, values did not predict using memory for self-continuity, nor were there any interactions between values and ethnicity or age.

Table 2

Summary of model coefficients examining whether values predict the self-continuity function of autobiographical memory with ethnicity or age as moderators.

	Self-continuity function		
Predictors	*coeff.*	*SE*	*p*
Values			
Conservation	.026	.036	.472
Self-enhancement	.057	.038	.136
Self-transcendence	.040	.038	.293
Ethnicity[b]	**-.156**	**.067**	**.020**
Age[a]	**--.272**	**.120**	**.024**
Interactions	n.s. in all models		

Notes. Significant effects for relevant predictors are highlighted in bold. Superscript [a] denotes contrast 1 and superscript [b] denotes contrast 2 (see text for coding details and all possible pairwise follow-up analyses).

Table 3

Summary of model coefficients examining whether values predict the directing-behavior function of autobiographical memory with ethnicity or age as moderators.

	Directing-behavior function		
Predictors	*coeff.*	*SE*	*p*
Values			
Conservation	**.094**	**.030**	**.002**
Self-enhancement	.045	.035	.194
Self-transcendence	**.092**	**.035**	**.010**
Ethnicity	-.106	.056	.066
Age[b]	**-.48**	**.174**	**.006**
Interactions			
Ethnicity x self-transcendence[b]	**-.122**	**.049**	**.014**

Notes. Significant effects for relevant predictors are highlighted in bold. Superscript [a] denotes contrast 1 and superscript [b] denotes contrast 2 (see text for coding details and all possible pairwise follow-up analyses).

Instead, the effects were for ethnicity and age, when values are held constant.[3] Specifically, follow up analyses revealed that for ethnicity, being Indo-Trinidadian compared to being mixed was related to more often using autobiographical memory for self-continuity (*coeff.* = .227, *SE* = .109, *p* = .038). Afro-Trinidadians also more often used the past for self-continuity compared to mixed-Trinidadians (*coeff.* = .226, *SE* = .126, *p* = .075), though this effect was marginally significant. Indo-Trinidadians did not differ from Afro-Trinidadians (*coeff.* = -.041, *SE* = .120, *p* = .734). The pattern for age indicated that there were age group differences in using autobiographical memory for the self function, in expected ways. Younger adults, compared to middle-aged (*coeff.* = -.274, *SE* = .123, *p* = .026) and older adults (*coeff.* = -.374, *SE* = .172, *p* = .031), more frequently used the self-function of autobiographical memory. The latter two age groups (middle-aged and older adults) did not differ (*coeff.* = -.153, *SE* = .182, *p* = .402).

Values and the Directing-behavior Function

A summary of coefficients for the models for the directing-behavior function is shown in Table 3. The variance explained for these models ranged from 22% (i.e., R^2 = .217, $F(9, 295)$ = 7.00, for the model with self-enhancement values and ethnicity as the moderator) to 25%, i.e., R^2 = .252, $F(9, 293)$ = 8.321, for the model with self-transcendence values and ethnicity as the moderator). Even so, all of the models were significant at $p < .001$. As seen, two values, conservation and self-transcendence, predicted the frequency of using autobiographical memory to direct behavior. Valuing self-transcendence, as expected, predicted more often using autobiographical memory for the directing-behavior function. The effect for self-transcendence, however, was moderated by ethnicity (interaction ΔR^2 = .018, $F(2, 293)$ = 3.088, p = .047). This interaction is depicted in Figure 1. As can be seen, for Afro- (*coeff.* = .166, *SE* = .068, *p* = .016) and Indo-Trinidadians (*coeff.* = .140, *SE* = .049, *p* = .004), valuing self-transcendence predicted using autobiographical memory more often for the directing-behavior function. Although this positive relation was expected to be larger for Indo- compared to Afro-Trinidadians, the size of the effects were relatively similar. The interaction was occurring because for mixed-Trinidadians there was no significant relation (*coeff.* = -.031, *SE* = .062, *p* = .620).

Although age did not moderate the relations between values and the directing-behavior function, as expected, there was a significant negative relation for age, when values were held constant. Specifically, as expected, older adults, compared to both younger (*coeff.* = -.556, *SE* = .172, *p* = .001) and middle-aged adults (*coeff.* = -.458, *SE* = .167, *p* = .007), less frequently used autobiographical memory for directing behavior. Younger and middle-aged adults did not differ (*coeff.* = -.049, *SE* = .095, *p* = .608).

Values and the Social-bonding Function

Table 4 provides the summary of the coefficients across the models that were conducted to examine whether

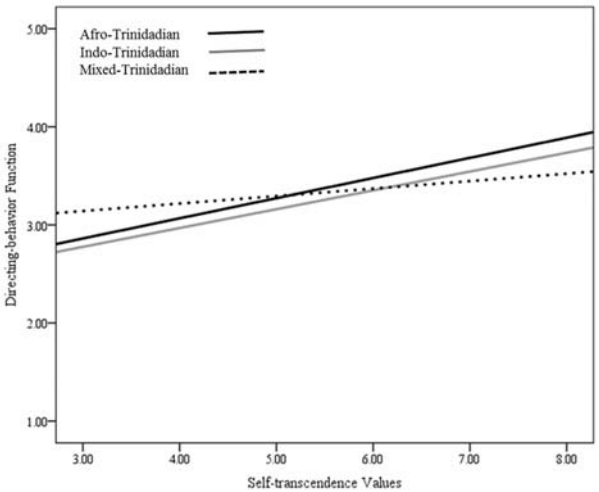

Figure 1. *Line graph depicting ethnicity as a moderator of the relation between self-transcendence values and the directing-behavior function of autobiographical memory.*

[3] The following coding was used for follow-up pairwise comparisons for ethnicity: Afro- (0) compared to Indo-Trinidadian (1); Mixed- (0) compared to Indo-Trinidadian (1); Mixed- (0 compared to Afro-Trinidadian (1). The coding for age group was: young (0) compared to middle (1); young (0) compared to old (1); middle (0) compared to old (1).

Table 4

Summary of model coefficients examining whether values predict the social-bonding function of autobiographical memory with ethnicity or age as moderators.

	Social-bonding function		
Predictors	*coeff.*	*SE*	*p*
Values			
Conservation	**.071**	**.034**	**.036**
Self-enhancement	.008	.036	.829
Self-transcendence	.067	.037	.069
Ethnicity	.004	.063	.954
Age	**-.568**	**.158**	**.000**
Interactions			
Conservation x Age [ab]	**-.167**	**.070**	**.018**

Notes. Significant effects for relevant predictors are highlighted in bold. Superscript [a] denotes contrast 1 and superscript [b] denotes contrast 2 (see text for coding details and all possible pairwise follow-up analyses).

values predicted the social-bonding function of autobiographical memory, and whether ethnicity or age group were moderators. All of the overall models were significant, $p < .001$. The variance explained by the models for the social-bonding function ranged from 15% (i.e., $R^2 = .152$, $F(9, 295) = 4.53$, for the model with self-enhancement values and ethnicity as a moderator) to 20% ($R^2 = .196$, $F(9, 293) = 7.395$, for the model with conservation values and age group as a moderator). As seen, only one value, conservation, predicted the frequency of using autobiographical memory for the social-bonding function. The relation was positive, as expected: higher levels of conservation were related to more frequently using memory for social bonding. There was also a significant negative relation for age, when values were held constant. Specifically, younger and middle-aged adults did not differ in their frequency of using the social-bonding function (*coeff.* = .087, *SE* = .102, $p = .383$). However, older adults differed from the other two groups: older adults less frequently used autobiographical memory for social-bonding, compared to both younger (*coeff.* = -.493, *SE* = .159, $p = .002$) and middle-aged adults (*coeff.* = -.521, *SE* = .165, $p = .002$).

Conservation values and age, however, also interacted (interaction $\Delta R^2 = .019$, $F(2, 293) = 4.024$, $p = .019$). As seen in Figure 2, the interaction was occurring because although there was no relation between conservation values and the social-bonding function for middle-aged adults (*coeff.* = -.074, *SE* = .060, $p = .217$), there was for the other two age groups. For both young (*coeff.* = .093, *SE* = .038, $p = .015$) and older adults (*coeff.* = .200, *SE* = .098, $p = .042$) valuing conservation was related to more often using autobiographical memory for social-bonding. The relation, however, was twice as large for older compared to the younger adults.

Discussion

The goal of the current study was to examine why people remember the personal past by looking through cultural and life phase lenses. This goal was accomplished by exploring whether values held by people predict why they remember the personal past, in general, and differentially by culture, assessed as ethnic group membership and life phase. Most previous work in the literature on cultural differences in the use of memory functions has explained cultural variations after-the-fact (e.g., Alea et al., 2015; Wang & Conway, 2004; Wang & Ross, 2010). Thus, we sought to fill this gap by explicitly measuring some basic human values, such as conservation, self-enhancement, and self-transcendence, and relating these values to remembering the personal past for self, directive, and social functions in a lifespan sample of Afro-, Indo-, and mixed-Trinidadian adults. The current study was exploratory because there was no prior work in the memory functions literature that had explicitly measured these values in relation to functions, and thus our hypotheses were based on related, but extant literature from mostly other countries. Perhaps because of this, some hypotheses were met, though some were not, and other results suggest important directions for future research.

The Self Function: Variation by Ethnicity and Life Phase, but Not Values

The self-continuity function of autobiographical memory is about using the past when someone wants to understand whether they have changed or remained the same over time in, for example, their values and beliefs (Bluck & Alea, 2011). This function of autobiographical memory is about understanding and defining the self (Barclay, 1996; Bluck & Liao, 2013; Webster, 1997). Self

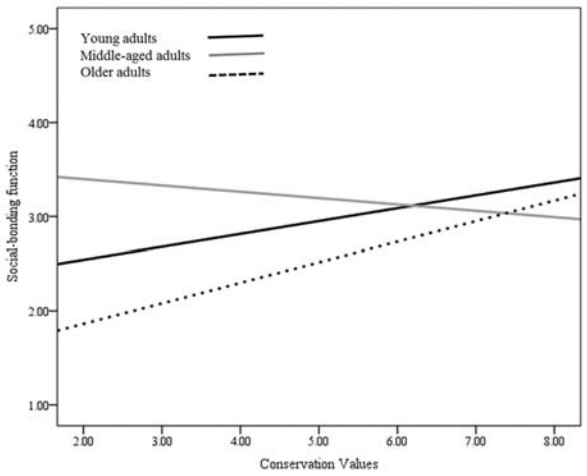

Figure 2. *Line graph depicting age group as a moderator of the relation between conservation values and the social-bonding function of autobiographical memory.*

functions are typically less commonly reported in cultures that value interdependence and collectivism (e.g., Liao et al., 2015; Kulkosfsky, Wang, & Koh, 2009; Maki, et al., 2015; Wang & Conway, 2004). These types of cultures value self-transcendence over self-enhancement, meaning that people within collectivist cultures are motivated to preserve and enhance not only immediate personal relationships but relationships among those in their 'in group', and to preserve and protect the welfare of people and society, more broadly (Hofstede, 2001; Schwartz, 1992). Thus, we hypothesized that valuing self-enhancement, which is about valuing personal successes, for example, would relate positively to the self-continuity function, and that there would be a negative relation between self-transcendence and the self-continuity function of autobiographical memory. However, there were no significant relations between being oriented toward these two values and the self function of autobiographical memory.

Instead, there were significant age and ethnic group differences in the self-continuity function, regardless of levels of self-enhancement and self-transcendence values. As would be expected, younger adults, compared to middle-aged and older adults, more frequently remembered the personal past for self-continuity. This age group pattern is consistent with North American studies (e.g., Bluck & Alea, 2008, 2009; Webster & McCall, 1999): younger age groups are more likely to use the personal past in an attempt to understand who they are and how they have change or remained the same over time compared to older adults. Ethnic group differences also emerged: Indo-Trinidadians, but also to some extent Afro-Trinidadians, used autobiographical memory more often for self-continuity compared to mixed-Trinidadians. Although we did not make specific hypotheses about ethnic group differences in the functions of autobiographical memory because the goal of the paper was to focus on the values-function link, this result is actually consistent with the ethnic identity literature from the region. Ethnicity is a particularly salient aspect of the self in Trinidad (Best, 2001). Compared to mono-ethnic Trinidadians (i.e., Afro- or Indo-Trinidadians), ethnic identity is more flexible for mixed-Trinidadians, meaning that they may identify with either of the two major ethnic groups at different times, or may actually identify with neither by claiming their national identity (i.e., Trinidadian) as their ethnic identity (Reddock, 1994). Although the TALE items for the self-continuity function are purposefully vague, not asking about self-continuity in a specific aspect of the self, such as continuity in ethnic identity, for Trinidadians, given the centrality of ethnicity to the self (Best, 2001), it may be exactly this variant of identity (Erikson, 1968) that they were focusing on when answering questions about using the past in an effort to understand how one has remained the same over time. If this is the case, then it makes sense that Afro- and Indo-Trinidadians used autobiographical memory to consolidate a sense of their ethnic self, more so than mixed-Trinidadians for whom consolidating a specific sense of ethnic identity is perhaps challenging or less relevant. Exploring this in future work seems warranted.

This may also be why ethnicity did not interact with values in predicting the self-continuity function, as expected. Our expectation was that a negative relation between self-transcendence and self-continuity would be strongest among Indo-Trinidadians, and a positive relation between self-enhancement and self-continuity would be strongest among Afro-Trinidadians. Instead, it seems that ethnic group membership, as well as life phase, supersedes values that might be held when using the personal past for self-continuity. We suspect that other values might matter for the self-continuity function of autobiographical memory, which is noted in our discussion of future directions.

The Directive Function: Variation by Values, Ethnicity, and Life Phase

The directive function of autobiographical memory is about using the personal past in a way that helps a person to make decisions and to guide their behavior not only in the present moment, but also for life experiences and problems that are expected in the future (Pillemer, 2003). Consistent with previous research (e.g., Bluck & Alea, 2009; Webster & McCall, 1999), older adults were less likely than young and middle-aged adults to use the personal past for the directive function. Previous research has shown that this age group difference is partially accounted for by the way that young and older adults value time (Bluck & Alea, 2009). Older adults' view of the future is more time- and possibility-limited, whereas younger adults have a more open-ended, expansive view of the future that includes numerous possibilities (Carstensen et al., 1999) and thus numerous ways to use the past to direct the future.

Conservation and self-transcendence values also seem to be related to the directive function of memory. Based on previous work linking openness to experience and the directive function of autobiographical memory (Rasmussen & Berntsen, 2010), we expected that there would be a negative relation between conservation values and using memory to direct behavior. Instead, however, a positive relation was found: valuing stability and tradition related to more often using the past to direct current and future behavior and problems for Trinidadians. This is in line with other work suggesting that conservation values may be particularly adaptive for development in the Trinidadian context (Arneaud, et al., 2016). A positive, expected relation was also found between self-transcendence values and the directive function of autobiographical memory. In retrospect, a similar pattern of results between these two value orientations and the directive function is not surprising because both values focus on the collective. Conservation, for example, is about valuing "safety, harmony, and stability of society, of relationships" and about restraining behaviours that are "likely to upset or harm others and violate social

expectations or norms", and self-transcendence is about "preserving and enhancing the welfare" of others (Schwartz, 2012, p. 6). Wang and Ross (2007) have speculated that it is precisely these types of values, which are held in regard in collectivist societies, that explains why Chinese use the directive function of autobiographical memory more often than European-American cultures. Thus, the current work is the first, to our knowledge, to (a) support this claim by demonstrating this value-function link directly and (b) address nuances by examining ethnic group differences in this link in a single society.

For Indo- and Afro-Trinidadians there was a positive relation between self-transcendence values and the directive memory function, whereas for mixed-Trinidadians there was no relation. The pattern was expected, based on previous research (e.g., Wang & Conway, 2004) for the Indo-Trinidadians because of their expected orientation toward more collectivist ideals (i.e., valuing kinship ties; Descartes, 2012). Afro-Trinidadians, though expected to be more individualist because of their Western Christian beliefs, do have a collectivist cultural heritage (e.g., Nsamenang, 2007) and also seem to value 'community', for example, defined in terms of geographical proximity (i.e., neighbourhoods) perhaps particularly due to difficult social circumstances (e.g., Hadeed & El-Bassel, 2006). Thus, for mono-ethnic groups in Trinidad, though for different reasons, valuing the welfare of others predicts more often using the past to direct behavior, perhaps for the common good. As was the case with the self function of autobiographical memory, the mixed-Trinidadians showed a different pattern.

The Social Function: Variation by Values and Life Phase, but Not Ethnicity

Previous results about age differences in the social function of autobiographical memory have been mixed because some work finds that there are no age differences (e.g., Alea & Bluck, 2007), some work finds that older adults are more likely than younger age groups to use social functions of autobiographical memory (e.g., intimacy maintenance; Webster, 1993), and yet other work finds that older adults are less likely than younger adults to use the past for the social function (e.g., Harris et al., 2013). We thus had no expectations about whether age would moderate the value-social function link, but it did. As expected, valuing conservation or social norms predicted using the personal past more often to form social ties and relationships; however, this pattern varied by age.

There seems to be a U-shaped pattern: the positive relation between conservation values and the social function of autobiographical memory was present for young, and particularly older adults, but not for middle-aged adults. This pattern mimics research on the quality of relationships across adulthood. Young adults' are devoted to building and developing relationships (Erikson, 1968), whereas older adults are committed to optimizing the affective quality of their relationships (Carstensen et al., 1999). Thus, at times in the life phase when social relations seem to be more highly valued, though for different reasons, there is a link between conservation values and the social bonding function of autobiographical memory. Again, although we expected this link to be present for self-transcendence, it was there for conservation, highlighting the importance of conservation values in contexts like Trinidad (see Welzel & Inglehart's, (2010) work on why many developing societies have traditional values). Thus, valuing and wanting to maintain social harmony by not upsetting the status quo relates positively to the social-bonding function of autobiographical memory at the two ends of the adult life phase when social relationships are perhaps the most salient.

Limitations and Conclusion

The current study has shown that values relate to the self, directive, and social functions of remembering in meaningful expected ways, and sometimes differentially across culture (ethnicity) and life phase. However, there are also some limitations that should be addressed through, for example, replication studies. The samples sizes among the three age groups were not equivalent, or large enough among, for example, the older adults, to examine whether values interacted with both ethnicity and age group in predicting memory functions. This could easily be rectified in future work. Second, as noted in the Introduction, there is likely a bi-directional link between values and memory functions which is why we do not claim that values cause people to use autobiographical memory in specific ways. Future longitudinal, cross-lagged panel designs that assess people's long-standing and shifting values over time and relate them to uses in autobiographical memory are thus warranted. Experimentally manipulating values and assessing why the personal past is used in daily life might also be an intriguing way forward.

Although collecting data within the Trinidadian culture had its strength because we could examine ethnic groups with presumed different values, this within-nation comparison might also have been a drawback. Although ethnic group differences were found, scholars (e.g., Crowley, 1957) have suggested that although there are multiple ethnicities in Trinidad, there is actually a larger, perhaps stronger, national identity, which may blur the boundaries between values held within ethnic groups (cf. Inglehart & Baker, 2000). Thus, although we believe moving beyond the East-West comparison in the literature on cultural differences in the functions of autobiographical memory is a fruitful direction (see Alea & Wang, 2015), more care needs to be taken to find values that perhaps better distinguish Trinidadians from other cultures (e.g., indulgence; Hofstede, 2001), or even Trinidadian ethnic groups among themselves. One important take-home message, however, is that when ethnic group differences were found, it was the mixed-Trinidadians who differed from the other two mono-ethnic groups. This seems particularly important because multiracial groups due to

intermarriage and immigration are a growing percentage of populations worldwide (e.g., Jones & Bullock, 2012), and to our knowledge, have never been studied in the autobiographical memory functions literature.

In conclusion, in order to fully understand why people in different cultures and life phases remember the personal past in their daily life, it is important to continue to explore and empirically assess the mechanisms underlying these differences (Alea & Wang, 2015), and not to speculate about them based on extant, though related, work. Values, or beliefs that motivate people to action in their daily life are perhaps only one mechanism which encourages humans to reflect on the personal past to differing degrees for self, directive, and social functions.

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