Age differences in dispositional optimism: a cross-cultural study

Jin You · Helene H. L. Fung · Derek M. Isaacowitz

Published online: 8 October 2009
© Springer-Verlag 2009

Abstract Testing the hypothesis that individuals develop their personal characteristics according to what their cultures emphasize, this cross-sectional study aimed at investigating how dispositional optimism varied with age among Americans and Hong Kong Chinese. The sample included 84 younger adults and 55 older adults that were equally distributed across the two cultures. Results revealed that older Americans displayed a higher level of dispositional optimism than did younger Americans; whereas older Chinese showed a lower level of dispositional optimism than did their younger counterparts. Findings shed light on the mixed findings on age-related dispositional optimism in the literature.

Keywords Ageing processes · Cultural context · Dispositional optimism

Introduction

Research on age differences in dispositional optimism has yielded mixed findings: some studies revealed an age-

related increase in dispositional optimism, but others did not (Chapin 2001; Herzberg et al. 2006; Isaacowitz 2005; Lennings 2000; Robinson-Whelen et al. 1997). Some possible explanations for these findings have been proposed, in terms of the moderating or mediating roles of religion (Mattis et al. 2004), stress (Robinson-Whelen et al. 1997), coping (Mayers and Derakshan 2004; Nicholls et al. 2008), and self regulation (Umstatted et al. 2007). In this study, we propose another moderator: socio-cultural contexts. We argue that these inconsistencies in findings on dispositional optimism might at least in part be the results of socio-cultural contexts. Given the fact that individuals develop their personal characteristics throughout the life-span, at least in part, according to what their socio-cultural contexts emphasize (Baltes et al. 2006; Fung and Ng 2006), age differences in dispositional optimism might occur in different directions when the socio-cultural contexts differ. To test this hypothesis, this study examined age differences in dispositional optimism among Americans and Chinese—two cultural groups that have been empirically shown to differ in dispositional optimism (Lee and Seligman 1997). We tested whether older Americans might display a higher level of dispositional optimism and older Chinese display a lower level of dispositional optimism than their younger counterparts, given that Americans emphasize dispositional optimism more than do Chinese (Lee and Seligman 1997).

Aging and dispositional optimism

Dispositional optimism is defined as a generalized positive expectation for the future (Scheier and Carver 1985; Scheier et al. 1994). Due to the positive relationships between dispositional optimism and many physical and psychological outcomes (Scheier and Carver 1993), there

J. You
Department of Psychology, Chung Chi College, Chinese University of Hong Kong, Shatin, NT, Hong Kong, China
e-mail: jyou@psy.cuhk.edu.hk

H. H. L. Fung (✉)
Department of Psychology, Chung Chi College, Chinese University of Hong Kong, Room 328 Sino Building, Shatin, NT, Hong Kong, China
e-mail: hhlfung@psy.cuhk.edu.hk

D. M. Isaacowitz
Department of Psychology, Brandeis University, Boston, USA
e-mail: dmi@brandeis.edu

has been an increased interest in the literature on how dispositional optimism develops with age. However, the findings so far are inconsistent. For example, a longitudinal study found that future attitude at age 13 had a positive but weak association with dispositional optimism at age 43 (Daukantaite and Bergman 2005). Lennings (2000) further revealed an age-related increase in dispositional optimism in a sample aged from 55 to 99 years. In addition, Chapin (2001) found that age was negatively associated with self-protective pessimism toward health risks in a community sample with age ranging from 14 to 78 years. These findings indicate a positive relationship between age and dispositional optimism.

Yet, other studies revealed a more complicated pattern of age-related dispositional optimism. Isaacowitz (2005) did not find any significant age differences in dispositional optimism after controlling for covariates, despite the fact that older Americans displayed a higher level of optimistic explanatory style in affiliation domain but a lower level of optimistic explanatory style in health domain. Another study found that older Americans with caregiving stress were more optimistic and less pessimistic than those without life stress (Robinson-Whelen et al. 1997). In an African-American sample, it was found that only older adults who had a positive relationship with God had a higher level of optimism and a lower level of pessimism compared to younger counterparts (Mattis et al. 2004). Other than these findings from Western cultures, two studies on Chinese found a comparable level of dispositional optimism among high-school students, undergraduate students and middle-aged adults (30–45 years), and within all these groups, age was unrelated to dispositional optimism (Lai and Cheng 2004; Lai and Yue 2000). It suggests that the relationship underlying age and dispositional optimism may be shaped by various other factors such as life stress and religious beliefs.

Culture, aging, and dispositional optimism

In particular, we argue that socio-cultural contexts may also shape dispositional optimism across age groups. Socioemotional selectivity theory (Carstensen 2006; Carstensen et al. 1999) argues that people prioritize emotionally meaningful goals with age. Even though such prioritization may be universal (Fung et al. 2001), the specific age-related patterns of personal characteristics can differ across cultures when cultural groups emphasize different goals. For example, our prior study (Fung and Ng 2006) found that older Chinese, but not older Canadians, endorsed *Ren Qing* (relationship orientation, a socially desirable personal characteristic in Chinese culture) to a greater extent than did their younger counterparts.

Replicating these findings among a large sample of European-Americans and Chinese-Americans aged 20–90 years, age was found to be positively correlated with *Ren Qing* among Chinese-Americans, but not European-Americans (Fung et al. 2009).

Extending this theoretical framework to dispositional optimism, we argue that cultures may differ in the relative emphasis that they place on dispositional optimism. These cultural differences may in turn determine the direction for age differences in dispositional optimism. Specifically, in Western cultures, being a good person means being unique, independent, and self-sufficient (Hamamura and Heine 2007; Markus and Kitayama 1991). To maintain a good self-image, individuals are motivated to attend to positive information regarding the self and the environment. As a result, individuals may tend to have a positive expectation for the future. On the contrary, in Eastern cultures, being a good person means being successful at maintaining good relationships with others (Hamamura and Heine 2007; Markus 2004). To this end, individuals are expected to adjust to others' demands and not to stand out from the group (Lai and Yue 2000). Having a positive expectation for one's own future is thus not encouraged, particularly when such a positive expectation disrupts the existing social hierarchy and implies that the individual is or will soon be "better" or "superior" than the rest of the group in some domains.

This cultural difference in dispositional optimism has been confirmed in empirical studies using different paradigms (Chang et al. 2001; Heine and Lehman 1995; Lee and Seligman 1997). Lee and Seligman (1997) found that Mainland Chinese had a lower level of optimism than did Chinese-Americans and European-Americans, using a self-reported attribution style questionnaire. By asking Canadian and Japanese participants to estimate the likelihood that positive or negative life events would occur to self or other, Heine and Lehman (1995) found that Japanese showed a higher level of pessimism when predicting both positive and negative life events than did Canadians. Chang et al. (2001) also found that while European-Americans were more optimistic in predicting negative events, Japanese were more pessimistic in predicting positive events. Moreover, dispositional optimism was found to be associated with many measures of cultural values, including independent-interdependent self-construal, uncertainty avoidance, self-enhancement and self-criticism, collectivism and individualism (Chang 1996; Fischer and Chalmers 2008; Lai and Yue 2000), suggesting that the developmental trajectories of dispositional optimism can potentially be shaped by what cultures emphasize.

In addition, dispositional optimism indeed was found to serve different functions across cultures. For instance, dispositional optimism was negatively correlated with

general physical and psychological well-being among Asian-Americans, but positively correlated with problem-solving behaviors among European-Americans (Chang 1996). In other words, optimism may be more important for well-being and thus is prioritized with age among Western cultural groups, whereas optimism may be less useful for maintaining well-being and thus shows a decreasing tendency with age in East-Asian cultural groups.

Nevertheless, no study has yet examined age differences in dispositional optimism from a cross-cultural perspective. To fill in this gap, the present study aimed at comparing age differences in dispositional optimism among Americans and Chinese. Given the prior finding that dispositional optimism was emphasized more among Americans than among Chinese (Lee and Seligman 1997), we expected older Americans to be more optimistic than younger Americans while older Chinese to be less optimistic than did younger Chinese. In other words, we expected younger adults to show cultural differences in dispositional optimism, with Americans endorsing dispositional optimism to a greater extent than did Chinese. Yet, more relevant to our hypothesis, we expected these cultural differences to be magnified with age, as members of each culture endorse cultural values to a greater extent with age (Rozin 2003).

Moreover, to ensure these expected cultural differences in age-related dispositional optimism are not confounded by socio-demographic and emotional factors, several potential covariates were included in the study. Specifically, prior research indicates that individuals with higher religiosity and higher education displayed higher levels of dispositional optimism (Mattis et al. 2004; Skinner et al. 1998), so education and religion were measured. Furthermore, considering that both physical and psychological well-being not only were associated with dispositional optimism, but also varied with age and culture (Conway et al. 2008; Scheier and Carver 1993), self-reported health and affect states were also measured.

Method

Participants

The American sample included 37 young adults ranging from 18 to 21 years old (29 females, $M = 18.41$, $SD = 0.72$) and 28 older adults ranging from 57 to 84 years old (19 females, $M = 68.46$, $SD = 6.78$) who resided in the area around Boston, MA, USA. The Chinese sample included 47 young adults ranging from 18 to 28 years old (27 females, $M = 19.69$, $SD = 1.64$) and 27 older adults ranging from 52 to 76 years old (17 females; $M = 65.15$, $SD = 6.38$) who resided in Hong Kong,

China. In both cultures, younger participants were recruited from a local university and older participants were recruited from the community in the same neighborhood as the university. Younger participants were offered either course credit or a monetary stipend for their participation; older participants were offered a monetary stipend.

Measures

Dispositional optimism

Dispositional optimism was measured by the Life Orientation Test (LOT, Scheier and Carver 1985). Participants were asked to rate the extent that they agree with each of the eight items on a 5-point Likert scale. Two items related to coping, “Things never work out the way I want them to” and “I’m a believer in the idea that every cloud has a silver lining” were deleted to approximate the revised life orientation test (Scheier et al. 1994). After that, the Cronbach’s alpha coefficient of the three items measuring optimism was 0.69, that of the three items measuring pessimism was 0.61, and that of the whole scale was 0.62. The final score of dispositional optimism was calculated by subtracting the score of pessimism from that of optimism. A higher score of dispositional optimism represents a greater tendency of having positive future-oriented expectations.

Potential covariates

Education level was coded as “3 = below primary school, 6 = primary school, 12 = high school; 16 = bachelor degree and 18 = postgraduate degree”. Religion was coded as “1 = religious, 0 = none”. Perceived health was reported on a 5-point Likert scale ranging from “1 = poor” to “5 = excellent”. Positive and negative affect was measured by the Positive and Negative Affect Scale (Watson et al. 1988); alpha coefficient for positive affect was 0.86, and that for negative affect was 0.89.

Results

Table 1 shows the descriptive statistics for all variables among younger and older Chinese and Americans. To compare the pattern of dispositional optimism across age and cultural groups, an ANOVA was conducted with culture (American vs. Chinese) and age group (younger vs. older adults) as between-subject variables. A significant age $\times$ culture interaction was found, $F(1, 133) = 8.48$, $MSE = 0.931$, $p < 0.01$, $\eta^2 = 0.06$ (see Fig. 1). Further analyses revealed that older Americans ($M = 1.49$, $SD = 0.96$) showed a significantly higher level of

Table 1 Mean and standard deviation of all variables across age and culture groups

	Americans		Hong Kong Chinese	
	Young adults	Older adults	Young adults	Older adults
Dispositional optimism	0.91 (1.19) _b	1.49 (0.96) _c	0.79 (0.85) _b	0.38 (0.79) _a
Education	12.00 (0.00) _b	16.14 (2.24) _a	16.04 (0.29) _a	6.70 (4.19) _c
Religion	81.1% _c	89.3% _a	29.8% _b	87.8% _a
Health	4.11 (0.77) _a	3.89 (0.73) _a	2.82 (0.89) _c	2.41 (0.79) _b
Positive affect	28.73 (7.48) _a	36.69 (6.62) _b	27.74 (6.19) _a	26.68 (7.29) _a
Negative affect	14.46 (3.57) _b	11.30 (1.59) _b	18.06 (7.20) _a	19.42 (6.24) _a

Notes: Means with different subscripts differ at $p < 0.05$

Fig. 1 Dispositional optimism as a function of age and cultures

optimism than did younger Americans ($M = 0.91$, $SD = 1.19$), $F(1, 63) = 4.32$, $MSE = 1.21$, $p < 0.05$, $\eta^2 = 0.07$, whereas older Chinese ($M = 0.38$, $SD = 0.79$) showed a significantly lower level of optimism than did younger Chinese ($M = 0.79$, $SD = 0.85$), $F(1, 72) = 4.04$, $MSE = 0.69$, $p < 0.05$, $\eta^2 = 0.05$. However, non-significant cultural difference in dispositional optimism was found among younger adults, $F(1, 81) = 0.58$, ns.

To ensure that the age by culture effects on dispositional optimism described above were not the products of demographic or socio-emotional confounds, we repeated the above analyses after statistically controlling for variables that not only varied with age and culture but also were associated with dispositional optimism (see Tables 1, 2). Controlling for these covariates, including education and positive affects, did not alter the results.

Discussion

On the basis of socioemotional selectivity theory (Carstensen 2006; Carstensen et al. 1999), we argue that members of each culture increasingly prioritize with age what their cultures emphasize. As the American culture emphasizes dispositional optimism more than does the Chinese culture (Chang et al. 2001; Eshun 1999; Ji et al. 2004; Lai and Yue 2000; Lee and Seligman 1997), we predicted older Americans to be more optimistic and older Chinese to be less optimistic than their respective younger counterparts. Findings supported these predictions. Moreover, the findings remained unchanged even after we had taken demographic and socioemotional variables, including education and positive affects, into account.

Table 2 Correlation between all variables among Americans and Hong Kong Chinese

	Age	Dispositional optimism	Education	Religion	Health	Positive affects	Negative affects
Age		−0.23*	−0.87*	−0.73**	−0.26**	−0.08	0.15
Dispositional optimism	0.23		0.29*	0.13	0.08	−0.01	−0.14
Education	0.83**	0.20		0.65**	0.35**	0.24	−0.16
Religion	−0.03	−0.04	−0.18		0.27*	0.08	−0.11
Health	−0.142	0.06	−0.11	−0.26*		0.19	−0.14
Positive affects	0.50**	0.31*	0.41**	−0.12	0.20		−0.12
Negative affect*	−0.50**	−0.07	−0.47**	−0.02	−0.05	−0.43**	

Notes: Inter-correlations for Chinese are above the diagonal, and those for Americans are below the diagonal

* $p < 0.05$, ** $p < 0.01$

These findings generally supported our argument that age differences in personal characteristics may vary with cultures according to what the respective cultures emphasize (Fung and Ng 2006). To the extent that our findings on cross-sectional age and cultural differences in dispositional optimism reflect developmental changes, they suggest that Americans, who as a culture has a stronger emphasis on optimism, become more optimistic with age; Chinese, who as a culture places less emphasis on optimism, become less optimistic with age.

In addition, findings from this cross-cultural aging study have implications for cross-cultural research. As Rozin (2003) has pointed out, most cultural studies used only college students as participants. This might have introduced biases to the results as the younger and older generations may not share the same levels of cultural values (Rozin 2003). We minimized this limitation by including older as well as younger adults in our sample and we indeed found significant age differences in dispositional optimism across cultures, suggesting that cross-cultural aging studies may be a useful way to study cultural differences.

Finally, we acknowledge several limitations in the study. First, this study is a cross-sectional study, and thus it is hard to distinguish cohort effects from developmental changes. Rozin (2003) argued that age differences in personality characteristics might be caused by globalization or economic development. Longitudinal studies are needed to address this question in the future. Second, compared with prior cross-cultural studies, the sample size of this study is small. Although we managed to find significant results with our small sample, suggesting that the study has sufficient power, larger samples are needed to test whether our findings can be replicated. Finally, we only measured dispositional optimism globally. Isaacowitz (2005) argued that optimism could be domain-specific. When examining future-oriented expectations within specific domains, he found that older adults displayed more optimistic explanatory style in affiliation domain, but less optimistic explanatory style within health and cognition domains than did younger adults. Consistent with these findings, the cross-cultural literature has found different patterns of cultural differences in optimism when examining optimism within specific contexts (Ji et al. 2004). Future studies should examine the effects of age and culture on optimism at both general and domain-specific levels.

Despite these limitations, this cross-culture aging study examined age differences in dispositional optimism across a Western and an Eastern culture. We found that older Americans showed a higher level of dispositional optimism than did younger Americans; yet, older Chinese displayed a lower level of dispositional optimism than did younger Chinese. These findings provide further support for our

argument derived from socioemotional selectivity theory that individuals may develop their personal characteristics with age according to what cultures emphasize. This has implications for the literature on adult development.

Acknowledgments This research was supported by a Direct Grant for Research from Chinese University of Hong Kong, and an Earmarked Research Grant, CUHK4652/05H, from Research Grants Council, Hong Kong. We thank Alice Y. Lu for collecting data and conducting the initial data analysis for the study.

References

- Baltes PB, Lindenberger U, Staudinger UM (2006) Lifespan theory in developmental psychology. In: Lerner RM (ed) *Handbook of child psychology*, vol 1. Wiley, New York, pp 569–664
- Carstensen LL (2006) The influence of a sense of time on human development. *Science* 312:1913–1915
- Carstensen LL, Isaacowitz DM, Charles ST (1999) Taking time seriously: a theory of socioemotional selectivity. *Am Psychol* 54:165–181
- Chang EC (1996) Cultural differences in optimism, pessimism and coping: predictors of subsequent adjustment in Asian American and Caucasian American college students. *J Couns Psychol* 43:113–123
- Chang EC, Asakawa K, Sanna L (2001) Cultural variations in optimistic and pessimistic bias: do Easterners really expect the worst and Westerners really expect the best when predicting future life events. *J Pers Soc Psychol* 81:476–491
- Chapin J (2001) Self-protective pessimism: optimistic bias in reverse. *N Am J Psychol* 3:253–262
- Conway F, Magai C, Springer C, Jones SC (2008) Optimism and pessimism as predictors of physical and psychological health among grandmothers raising their grandchildren. *J Res Pers* 42:1352–1357
- Daukantaite D, Bergman LR (2005) Childhood roots of women's subjective well-being: the role of optimism. *Eur Psychol* 10:287–297
- Eshun S (1999) Cultural variations in hopelessness, optimism, and suicidal ideation: a study of Ghana and US college samples. *Cross-Cult Res* 33:227–238
- Fischer R, Chalmers A (2008) Is optimism universal? A meta-analytical investigation of optimism level across 22 nations. *Pers Individ Differ* 45:378–382
- Fung HH, Ng SK (2006) Age differences in the sixth personality factor: age differences in interpersonal relatedness among Canadians and Hong Kong Chinese. *Psychol Aging* 21: 810–814
- Fung HH, Lai P, Ng R (2001) Age differences in social preferences among Taiwanese and Mainland Chinese: the role of perceived time. *Psychol Aging* 16:351–356
- Fung HH, Ho YW, Tam KP, Tsai J (2009) Value moderates age differences in personality: the example of relationship orientation. Manuscript submitted for publication
- Hamamura T, Heine SJ (2007) Approach and avoidance across cultures. In: Elliot AJ (ed) *Handbook of approach and avoidance motivations*. Erlbaum, Mahwah, NJ
- Heine SJ, Lehman DR (1995) Cultural variation in unrealistic optimism: does the west feel more invulnerable than the East? *J Pers Soc Psychol* 68:595–607
- Herzberg PY, Heide G, Jurgen H (2006) Separating optimism and pessimism: a robust psychometric analysis of the revised Life Orientation Test (LOT-R). *Psychol Assess* 18:433–438

- Isaacowitz DM (2005) Correlates of well-being in adulthood and old age: a tale of two optimisms. *J Res Pers* 39:224–244
- Ji L, Zhang Z, Usborne E, Guan Y (2004) Optimism across culture: in response to the severe acute respiratory syndrome outbreak. *Asian J Soc Psychol* 7:25–34
- Lai JCL, Cheng ST (2004) Health beliefs, optimism, and health-related decisions: a study with Hong Kong Chinese. *Int J Psychol* 39:179–189
- Lai JCL, Yue X (2000) Measuring optimism in Hong Kong and mainland Chinese with the revised life orientation test. *Pers Individ Differ* 28:781–796
- Lee YT, Seligman ME (1997) Are Americans more optimistic than the Chinese? *Pers Soc Psychol Bull* 23:32–40
- Lennings CJ (2000) Optimism, satisfaction and time perspective in the elderly. *Int J Aging Hum Dev* 51:167–181
- Markus HR (2004) Culture and personality: brief for an arranged marriage. *J Res Pers* 38:75–83
- Markus HR, Kitayama S (1991) Culture and self: Implications for cognition, emotion, and motivation. *Psychol Rev* 98:224–253
- Mattis JS, Fontenot DL, Hatcher-Kay CA, Grayman NA, Beale RL (2004) Religiosity, optimism, and pessimism among African Americans. *J Black Psychol* 30:187–207
- Mayers LB, Derakshan N (2004) Do childhood memories colour social judgements of today? The case of repressors. *Eur J Pers* 18:321–330
- Nicholls AR, Polman RC, Levy AR, Backhouse SH (2008) Mental toughness, optimism, pessimism, and coping among athlete. *Pers Individ Differ* 44:1182–1192
- Robinson-Whelen S, Kim C, MacCallum RC, Kiecolt-Glaser JK (1997) Distinguishing optimism from pessimism in older adults: is it more important to be optimistic or not to be pessimistic? *J Pers Soc Psychol* 73:1345–1353
- Rozin P (2003) Five potential principles for understanding cultural differences in relation to individual differences. *J Res Pers* 37:273–283
- Scheier MF, Carver CS (1985) Optimism, coping, and health: assessment and implications of generalized outcome expectancies. *Health Psychol* 4:219–247
- Scheier MF, Carver CS (1993) On the power of positive thinking: The benefits of being optimistic. *Curr Dir Psychol Sci* 2:26–30
- Scheier MF, Carver CS, Bridges MW (1994) Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): a reevaluation of the Life Orientation Test. *J Pers Soc Psychol* 67:1063–1078
- Skinner CS, Kreuter MW, Korbrin S, Strecher VJ (1998) Perceived and actual breast cancer risk: Optimistic and pessimistic biases. *J Health Psychol* 3:181–193
- Umstattd MR, McAuley E, Motl RW, Rosengren KS (2007) Pessimism and physical functioning in older women: influence of self-efficacy. *J Behav Med* 30:107–114
- Watson D, Clark L, Tellegen A (1988) Development and validation of brief measures of positive and negative affect: the PANAS scales. *J Pers Soc Psychol* 54:1063–1070