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AGING WELL SOCIALLY THROUGH ENGAGEMENT WITH LIFE: ADAPTING ROWE AND KAHN'S MODEL OF SUCCESSFUL AGING TO CHINESE CULTURAL CONTEXT*

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ABSTRACT

Although aging well socially (Engagement with Life) is as important as aging well personally (Illness Avoidance and Functioning) (Rowe & Kahn, 1998), it has received less research attention. A Caring (CE) and a Productive (PE) form of Engagement were derived from an analysis of Chinese cultural meanings of engagement, and combined with Illness Avoidance and Functioning to form a 4-factor model. Confirmatory factor analysis based on 2,970 Hong Kong Chinese (40 to 74 years) showed a good model fit that was

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replicated a year later with 2,120 of the original sample. Further analysis led to a more parsimonious model where Illness Avoidance and Functioning converged into a single second-order factor whereas CE and PE remained as distinct first-order factors. The results supported the differentiation of Rowe and Kahn's Engagement with Life component into Caring and Productive Engagements.

With increasing longevity, people can live longer and fuller lives. Havighurst (1961) coined the term "successful aging" to highlight the quest for aging particularly well beyond simply aging normally. Similarly positive terms have mushroomed to form the "New Gerontology" (Holstein & Minkler, 2003): "active aging" (World Health Organization [WHO], 2002), "vital aging" (Erikson, Erikson, & Kivnick, 1986), "productive aging" (Morrow-Howell, Hinterlong, & Sherraden, 2001); and "positive aging" (Minichiello & Coulson, 2005). The present research, conducted in Hong Kong, China, is to adapt Rowe and Kahn's (1998) influential model of successful aging to a Chinese population by exploring its "engagement with life" component in light of similar concepts in Chinese culture. Hong Kong is an appropriate site for researching aging, as life expectancy there is among the highest in the world and still increasing (Census & Statistics Department, 2006). Given longevity worldwide, cross-cultural research in Asia would shed light on the global pursuit of successful aging (Fry, Dickerson-Putman, Draper, Ikels, Keith, Galscock, et al. 1997).

Rowe and Kahn (1998) identified three components of successful aging[1]: relatively low risk of disease and disability (illness avoidance); relatively high physical and mental functioning (functioning); and *active engagement with life*. The social component of engagement represented a major revision of their earlier model, which focused only on illness avoidance and functioning (Berkman, Seeman, Albert, Blazer, Kahn, Mohs, et al., 1993). All three components were considered as important by older adults themselves (Bowling, 2006, 2007; Knight & Ricciardelli, 2003; Reichstadt, Depp, Palinkas, Folsom, & Jeste, 2007). Depp and Jeste (2006) reviewed 29 definitions of successful aging and found that whereas illness avoidance and physical functioning appeared in nearly every definition, cognitive functioning appeared in less than half of the definitions, and social/productive functioning in even less. A review conducted by the present authors of cross-cultural surveys that included social engagement revealed that none had tested or reported the model's overall factor structure (Chou & Chi, 2002; Hsu & Chang, 2004; Lennartsson & Silverstein, 2001; Sun & Liu, 2008).

[1] In Rowe and Kahn's (1998) model, *successful* aging requires passing all three components above the level of usual aging. In contrast to successful aging, *usual* aging allows decline in respect of these components with age as long as the extent of decline is not dysfunctional (Rowe & Kahn, 1998).

Thus, despite Rowe and Kahn's attempt to include social engagement in their model, more research is still needed to understand this component and test the model's overall factor structure.

Conceptually Rowe and Kahn (1998) located engagement in close personal relationships and productive activities. Close relationships consist of *socio-emotional* and *instrumental* support. Instrumental support refers to activities such as "giving physical help, doing or helping with chores, providing transportation, and giving or lending money" (p. 47). These instrumental activities overlap confusingly with productive activities that include "all activities, paid or unpaid, that create goods or services of value" (p. 47). Another, more fundamental, criticism pertains to the lack of rationale for collapsing the socio-emotional and instrumental/productive aspects of social engagement into a single component. The Chinese cultural meanings of social engagement in ageing, on the other hand, point to two equally important but distinct aspects that correspond roughly to the social-emotional and instrumental/productive engagements. Below we analyze these meanings to form the basis of differentiating Rowe and Kahn (1998) engagement component into two, and test the resulting factor structure of successful aging against longitudinal data collected in Hong Kong.

In a focus group study, Chinese adults in Hong Kong were asked to talk about people whom they would consider to be aging well (successfully, positively, and so forth), offer their views on the criteria of aging well, and suggest ways of aging positively (Chong, Ng, Woo, & Kwan, 2006). The results showed three themes corresponding to Rowe and Kahn's (1998) components, thus confirming their cultural relevance. With respect to participants' discourse on social engagement, Chong et al. (2006) noted its complexity and called attention to its cultural meanings. We revisited participants' remarks, identified two discursive themes and related them to relevant Chinese folklores and Confucian ethics for insights on the cultural meanings of social engagement in older adulthood.

One theme was that participants continued to care for the well-being of younger generations even in old age and this life-long commitment underpinned one of their motivations to be socially engaged. For example, "My son is the most important person in my life, much more than my husband. I would offer him the best food and prepare him the best soup," "The social trend is that it is no longer a must for individuals to support their elderly parents. Therefore, older parents should accept this," and "As parents, we should understand our children's difficulties" (Chong et al., 2006, p. 254). In the Chinese cultural context, this discursive construction of social engagement echoes a popular Chinese folklore that is grounded in the Confucian ethic of caring for young ones and for elders in the family as well as in other families (幼吾幼以及人之幼 – *you wu you yi ji ren zhi yo;* 老吾老以及人之老 – *lao wu lao yi ji ren zhi lao*). Engagement with others by showing care and love constitutes a major form of social engagement in Chinese culture (Pang-White, 2009). Grandparents in Chong et al.'s (2006, p. 249) study expressed their joy of caring for young generations and of participating

in their lives in this way: "My daughter gave birth to a grandson who keeps me company. I can play with him, I am really fortunate." The joy *(le)* derived from caring for young generations (*er sun*) illustrates the folklore of *er sun le* (兒孫樂), an observation also made by Fry et al. (1997).

A second discursive theme revolved around the desire to continue to be useful to society, for example, "It feels good that, even though we are old, we can still help others and contribute to society while doing something that is of value to ourselves at the same time" (Chong et al., 2006, p. 249). This sentiment is summed up by the Chinese folk belief of *lao you sou wei* (老有所爲 – *elders have roles to play*), which stresses *productive* engagement and exhorts elders to continue contributing to society, and reciprocally requires society to provide opportunities for elders so that as they live to old age, they can continue learning and working all the way (*huo dao lao, xue dao lao, zuo dao lao* – 活到老, 學到老, 做到老). A popular poem uses the analogy of an aging cow to illustrate the geriatric zeal for productive engagement: upon realizing that the time remaining in life for work is short, an aging cow would work harder without being forced to by its master (老牛自知夕陽短, 不用揚鞭自奮蹄). The extra motivation to be useful and productive, which stems from the realization that time remaining in life gets shorter in old age, is consistent with socio-emotional selectivity theory (Carstensen, 1991), but applies more to making productive or instrumental contributions than to preserving meaningful social networks. Such aging practice is integral to Chinese culture and closely embedded in the Confucian ethics of diligence and social contribution (Le, Shen, & Du, 2004; Li, 2001).

The discussion so far shows that caring (CE) and productive (PE) engagements can provide a useful framework for understanding aging well socially in the Chinese cultural context. They have a strong cultural fit with filial piety (Ng, Loong, Liu, & Weatherall, 2000) and collectivistic values found among Chinese (Leung, Moneta, & McBride-Chang, 2005). To our knowledge, no studies in Chinese societies have treated these two forms of engagement as *separate* components and included them *jointly* in the same study. PE, but not CE, was included in Chou and Chi's (2002) study of Hong Kong Chinese (60 years or older), named therein as productive involvement and operationalized in terms of employment and frequency of providing household chore assistance to family and friends. In Taiwan, Hsu and Chang (2004) included social health in their definition of successful aging to refer to relational and instrument supports for significant others, but without treating the supports separately or taking into consideration productive contributions in the broader sense.

Separation of the engagement component into two, and raising each to the same level of importance as illness avoidance and functioning, indicate our belief that successful aging is not solely a matter of aging well personally in terms of illness avoidance and functioning, important though they are, but also socially as a caring and productive member of one's family, community, and society.

Together, they expand Rowe and Kahn's (1998) 3-factor model into a 4-factor model that comprises illness avoidance, functioning, and caring (CE) and productive (PE) engagements. In the present study, CE and PE are expected to be moderately inter-correlated, as are illness avoidance and functioning, and yet will be sufficiently distinct from one another.

METHOD

Measurement of CE, PE, Illness Avoidance, and Functioning

Questionnaire items were written to represent CE and PE, informed also by Rowe and Kahn (1998) and Chong et al. (2006). Illness avoidance and functioning questions were based on Rowe and Kahn (1998), with appropriate reference made to existing scales such as the ADLs (activities of daily living), IADLs (instrumental activities of daily living), and MMSE (Mini Mental State Examination). Strawbridge, Wallhagen, and Cohen (2002) used a similar approach to questionnaire development, instead of copying ready-made scales.

After pilot testing with 10 individuals, between four and five items were selected for each of the four factors of successful aging. CE was based on care and support shown to four categories of significant others, each represented by one item, namely, family, other relatives, neighbors, and friends. These were followed by an overall self-assessment of how concerned and supportive they have been. PE was measured by four items relating to tangible or productive contributions made to the family, one's work and career, the community, and society at large. Illness avoidance was operationalized in terms of bodily pain, medication and physical mobility, followed by an overall self-assessment of health. Functioning comprised energy level, sleep, memory, parallel information processing, and independent living. Responses were made on a 5-point rating scale. The English translation of the 18 items is presented in the Appendix.

Longitudinal Design of the Main Study

A longitudinal design was adopted to provide two waves of survey data in 2004 and 2005, respectively. In the overall project, of which the present report forms a part, the longitudinal design enabled baseline measures of PE and CE taken in 2004 to serve as controls for testing the effects of several predictors on PE and CE measured a year later in 2005. The baseline control afforded by the longitudinal design controlled confounds due to individual differences in PE and CE already existing in 2004, results of which will be reported in a separate report. For present purposes, the first survey provided the information necessary for the confirmatory factor analysis of the proposed 4-factor model, while the second survey allowed a test of the reliability of the results.

Participants

Participants were community-dwelling adults between the age of 40 and 74 years, totaling 2970 in the first study. They were recruited by 68 paid undergraduate interviewers who each nominated about 40 adults within the target age range. The nominees' names were assigned to *another* interviewer for interviewing. This process was intended to interview about 800 adults in each of the three younger age groups: 40s, 50s, and 60s. For participants aged 70 to 74 years, the target number was raised from 400 (half of 800) to 500 in order to allow for difficulty of contacting them in the follow-up study. The overall target fell short by around 150, mainly in the oldest age groups, and was made up by recruiting participants from community-dwelling adults who took part in activities offered by community centers. The overall non-response rate was less than 8%. Twelve months later, 2120 of the participants were successfully contacted to complete the follow-up interview.

Questionnaire

The questionnaire consisted of the four measures of health, functioning, CE, and PE already described. Demographic information on age, gender, education level, family income, marital status, and living arrangement was collected. The questionnaire used in the first survey also included a number of attitudinal, lifestyle, financial, and social network items for testing other hypotheses that will not concern us here.

In the second survey, the questionnaire contained the original four measures (health, functioning, CE, and PE), new items on recent life events, and various other items unrelated to the present purpose. The life event items asked respondents to indicate whether they have retired, become family caregivers, or taken up voluntary work during the past year. These recent events and the prior information on work status (in work vs. out of work) obtained in the first survey formed predictors for testing hypotheses in the larger study.

Procedure

Data were collected in face-to-face interviews conducted at the interviewee's home or another venue nominated by the interviewee. A few interviews took place over the phone at the interviewee's request. Interviewers were undergraduates who had been trained in interviewing techniques. The second survey followed the same procedure as in the first, except that several interviewers who had graduated were replaced by others.

RESULTS

Main Study (2004 and 2005)

The sample of adults displayed diverse demographic characteristics. Comparisons with available census data were made but only rough approximations could be reached because the census data did not subdivide the general population into age categories that matched the present sample. For example, there was no 65-74 category, but a broader 65+ category that included people older than 74 years. Table 1 shows the figures of the 65+ category and of the population, in order to provide a range for comparison (Fung, 2008). It would be reasonable to expect that the present sample would fall within the range with respect to relevant demographics rather than outside it. On "education," "living alone," and "employed," the sample was well within the range. The percentage of being "married" exceeded the range, which was normal because the 65+ census category would have a higher proportion of widows among those older than 74 years. Of the two remaining demographics, "women" were over-represented in the sample, and "median family income," being too close to that of the 65+ category,

Table 1. Socio-Demographic Characteristics
(Scored in Percents or Medians)

	Sample (2004)	Population (2006)	
Characteristic	Aged 40-74	Aged 65+	All
Female	62.1	53.9	52.3
Primary education or below	55.0	75.0	25.4[a]
Married	78.0	75.0	25.4[a]
Living alone	8.8	11.6	5.4
Employed	43.5	7.0	60.3[a]
Employer	1.2	na	na
Self-employed	7.9	na	na
Employee	34.4	na	na
Retired	28.4	na	na
Unemployed	2.8	na	na
Homemaking	25.3	na	na
Median family income	11250.0	11125.0	17250.0

[a]aged 15+; na = no available data.

Median family income was in Hong Kong dollars, all other characteristics were expressed in percents.

probably over-represented lower income families (in Hong Kong people 65+ have mostly retired on reduced income) and under-represented richer people. Overall, the sample afforded a reasonable degree of generalizability to the corresponding age group in the population (40- to 74-year-olds), except for men and higher income families.

Confirmatory factor analysis was used to test the factorial structure of positive aging dimensionality. The factorial structure assigned 18 indicators (items) to represent illness avoidance, functioning, PE, and CE, regarded as trait factors. Negatively worded indicators were reverse coded so that all indicators were scored in the positive direction. These factors were distinct from a common method (artifact) factor representing the use of ratings for the indicators (Podsakoff, MacKenzie, & Podsakoff, 2003). Besides, the indicators appearing consecutively in the questionnaire were likely to have serial correlations among themselves, with correlations between the first indicator and the second indicator, between the second indicator and the third indicator, and so on. Serial correlations would capture the method artifact in the ordering of the indicators in the survey questionnaire (Schriesheim, Solomon, & Kipelman, 1989). Overall, the factor model consisted of four trait factors, one method factor, and 17 serial correlations to reproduce the correlations among the 18 indicators. The model was expected to fit the data by revealing acceptable loadings or higher ($\lambda > .30$) on the four trait factors, given the influence of method artifacts.

Confirmatory factor analyses manifested significant ($p < .001$) and acceptable loadings ($\lambda > .30$) of the indicators on their corresponding factors (see Figure 1). These findings arose from models with good fits to the data: for 2004 data, $\chi^2(98) = 512$, *RMSEA* = .038, *SRMR* = .027, *CFI* = .959; for 2005 data, $\chi^2(98) = 480$, *RMSEA* = .043, *SRMR* = .029, *CFI* = .952. The fits passed criterion levels: the RMSEA was lower than .07; SRMR lower than .05, and CFI higher than .95 (Hu & Bentler, 1999).

Despite its goodness of fit, the model had two shortcomings. First, the loadings of some of the 18 indicators were barely acceptable. Second, the correlations between the factors of illness avoidance and functioning were high (*r*s = .860 and .866 for 2004 and 2005, respectively). By contrast, the correlations between CE and PE were low, *r*s = .462 and .458. As can be expected, other correlations between illness avoidance and functioning on the one hand, and CE and PE on the other hand, were even lower (Table 2).

The high correlation indicated that illness avoidance and functioning should both reflect a common second-order factor, which appeared to be health. In the interest of scale development, further analyses were conducted to select indicators with higher loadings (threshold of λ raised toward .50), as well as to introduce a second-order factor to capture the correlation between illness avoidance and functioning. The modified model based on 12 of the 18 items was essentially similar to the original model while retaining an equally good fit as before: for 2004 data, $\chi^2(100) = 432$, *RMSEA* = .040, *SRMR* = .029, *CFI* = .954; for 2005

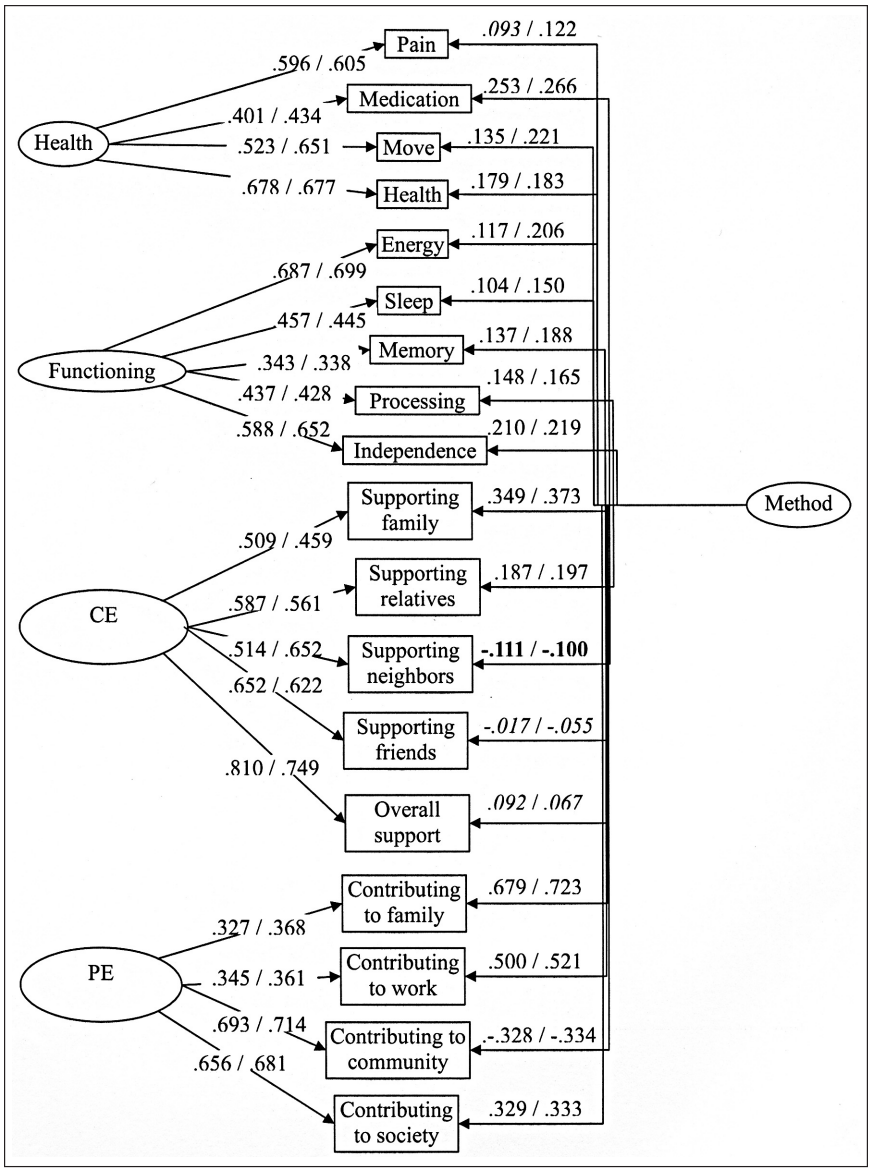

Figure 1. Factor loadings from first confirmatory factor analyses of 2004 and 2005 data. **Note:** In each pair of factor loadings, the left one is from 2004 and the right one is from 2005. Italics: ns; **bold**: $p < .05$; plain: $p < .01$. Goodness of fit: 2004: χ^2 (98) = 512, *RMSEA* = .038, *SRMR* = .027, *CFI* = .959; 2005: χ^2 (98) = 480, *RMSEA* = .043, *SRMR* = .029, *CFI* = .952.

Table 2. Inter-Factor Correlations in 2004/2005

	Functioning	CE	PE
Illness avoidance	.849/.828	.174/.255	.205/.212
Functioning		.279/.242	.221/.191
CE			.462/.458

Note: All correlations are significant at $p < .01$.

data, $\chi^2(100) = 483$, *RMSEA* = .043, *SRMR* = .029, *CFI* = .952. All loadings on the four first-order factors and second-order factor were statistically significant and strong, consistently based on the 2004 and 2005 data (see Figure 2). Notably, loadings on the second-order factor of health were highest ($\lambda > .85$). Correlations among health, CE, and PE were statistically significant but weaker. Overall, the confirmatory factor model illustrated structural validity in successful aging, in the sense that indicators converged to represent the four first-order factors, two of which in turn converged to identify the health side of successful aging (Rindskopf & Rose, 1988). As the modified model was more parsimonious, it was preferable and estimates from the model were more appropriate (for subsequent presentation and discussion).

Across the two years from 2004 to 2005, overall successful aging was significantly lower in the same person ($\Delta M = –0.05$, $\eta = .110$, $p < .001$). Specifically, declines over time as indicated by effect size (η), though small, were statistically significant for illness avoidance, functioning, and PE. Note that the decline was *not* significant for CE (see Table 3). The contrast between PE and CE indicated different rates of developmental change between the two forms of social engagement in support of their separation.

Validation Study

For the validation of the measure of successful aging specifically, an additional study collected data to assess the power of the measure to discriminate between adults identified as aging well and those identified as aging less well. There were 233 adults, aged from 40 to 90 years, recruited from a number of community centers. Social workers or tutors in the same centers who had known them for a long period of time identified whether the respondents were aging well ($n = 112$) or less well ($n = 121$). Blind to this classification, interviewers asked the 223 adults to respond to the 18 successful aging items and rate their present and future quality of life according to Cantril's (1965) ladder method. The Cantril self-assessment, which consisted of nine steps varying from lowest (1) to highest (9) quality of life, served the purpose of verifying the staff's classification before the two groups were used for validating the measures.

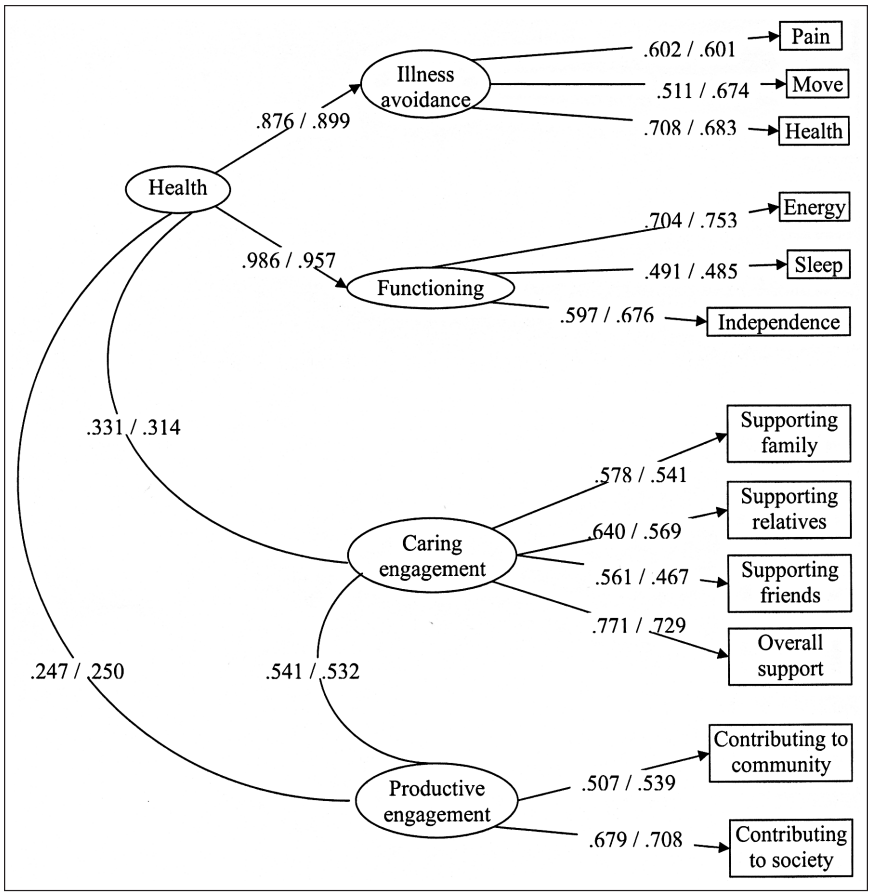

Figure 2. Factor loadings from second confirmatory factor analyses of 2004 and 2005 data. **Note:** In each pair of factor loadings, the left one is from 2004 and the right one is from 2005. All parameters were statistically significant at the .05 level. Goodness of fit: 2004: χ^2 (46) = 296, *RMSEA* = .051, *SRMR* = .037, *CFI* = .944; 2005: χ^2 (46) = 280, *RMSEA* = .049, *SRMR* = .035, *CFI* = .950.

The two groups did not differ in age (means = 64.0 versus 65.9 years), $F(1, 231) = 2.22$, $p > .05$. The aging well group scored significantly higher than the other group in present and future quality of life (Fs(1, 231) = 3.87 and 6.68, respectively), thus confirming the classification made by center staff. Critically, those identified as aging well were significantly higher in overall successful aging and all its four dimensions than were their counterparts, regardless of whether the measures were based on the 18 items in the first CFA or on the 12 items in the second CFA. The latter results are shown in Table 4.

Table 3. Means of Successful Aging in 2004 and 2005

	Illness avoidance	Functioning	CE	PE	Overall
2004	3.85	3.83	3.35	2.97	3.50
2005	3.81	3.76	3.32	2.92	3.45
η	.063**	.095***	.045	.063**	.110***

*$p < .05$. **$p < .01$. ***$p < .001$.

Table 4. Means of Successful Aging between People Aging Well and People Aging Less Well

	Illness avoidance	Functioning	CE	PE	Overall
Aging less well ($n = 121$)	3.30	3.46	2.84	1.95	2.89
Aging well ($n = 112$)	3.65	3.87	3.52	2.72	3.44
η	.188*	.243**	.382***	.343***	.399***

*$p < .05$. **$p < .01$. ***$p < .001$.

DISCUSSION AND CONCLUSIONS

The aim of the present study is not to estimate the prevalence of successful aging among adult Chinese in Hong Kong, or apply uncritically Rowe and Kahn's (1998) model to the Chinese cultural context. Rather, the objectives are to differentiate the social engagement component into a caring (CE) and a productive (PE) component based on an analysis of their meanings in Chinese culture, and to confirm the distinctiveness of the CE and PE in the expanded 4-factor model. As noted in the introduction, elements CE and PE are already present in Rowe and Kahn's (1998) definition of social engagement. They are not new. What is new from the present study is the conceptual unbundling of CE and PE. They were previously lumped together when Rowe and Kahn added social engagement to their model of successful aging to broaden it to include social and not just bio-medical elements. Against this background, the separation of CE and PE can be viewed as an attempt to broaden the model even further in the social direction.

The results show that the 4-factor model structure resembles Rowe and Kahn's model with two of the factors replicating their illness avoidance and functioning components. At the same time, the present study suggests the convergence of these two health-related components into a single second-order factor. Importantly, it

refines the social engagement component by successfully differentiating it into CE and PE, which are correlated but sufficiently distinct as expected, and showed different rates of developmental change. An independent validation study demonstrates the abilities of CE and PE (as well as the two health components) to discriminate adults who age well from those who age less well. These robust results have been replicated a year later, and all are based on a large sample of both middle-aged and older adults. The large age range is relatively unique among Chinese aging research in Hong Kong (Cheng & Chan 2006; Leung et al., 2005), mainland China (Du, 2008; Li, Aranda & Chi, 2007; Wu & Schimmele, 2006), Taiwan (Hsu & Chang, 2004), and Singapore (Ng, Broekman, Niti, Pwee, & Kua, 2009), none of which has included middle-aged adults despite the call to do so by Sheehy (1995) and others (e.g., Brim, Ryff, & Kessler, 2004; Kirasic, 2004).

Several limitations of the present study are notable, along with possible directions for further research. First, although the questionnaire includes key elements of Rowe and Kahn's (1998) model, it is a new scale written in Chinese and the factors it captures may not represent the same factors in their model. Second, while the CE-PE distinction found in the present study is consistent with the corresponding clusters of Chinese folklores derived from Confucian ethics, it remains unclear how the cultural context has led to the differentiation of CE from PE and not their integration or coalescence. This issue is also shared by aging research on the practice of filial piety, which typically differentiates the (complex) practice into such components as financial support, personal care, respect, obedience, and so forth (Ng et al., 2000; Sung, 1995). Here, as in the present study, the multidimensionality of the practice is taken as the starting point, and the research question is how to measure the components, rather than to find out how the cultural context has led to the differentiation of the practice into components. There is thus a paucity of research on the latter question. One possible reason for the differentiation of social engagement in the Chinese cultural context may be due to a high degree of Confucian elaboration of the concept and practice of social engagement, which in turn may have resulted from cultural collectivism that puts a high premium on relational interdependence (Brewer & Chen, 2007; Yang, 1999). Third, while the concern of the present study is on positive aspects of aging, this positive orientation carries risks. As Holstein and Minkler (2003) have pointed out, not all people have the kind of life chances that would render successful aging within their reach (see also Kendig, 2004). Fourth, as different age cohorts may have different expectations of successful aging, further research is required to identify other normatively desirable states of aging such as positive spirituality (e.g., Crowther, Parker, Achenbaum, Larimore, & Koenig, 2002). Finally, as shown by research on Chinese emigrants growing old away from the homeland (Chappell, 2005), their cultural roles not covered in the present study deserve attention in order to discover their contributions to keeping alive the collective memory of the past.

Social engagement, the main concern of the present study, is likely to decline in old age because of aging loss in social interaction and social networking (van Groenon & van Tilburg, 2003), community participation (Richard, Gauvin, Gosselin, & Laforest, 2008), and volunteering (Choi, 2003; Warburton, Paynter, & Petriwskyj, 2007). Its successful differentiation into CE and PE would provide a platform for future research to look at CE and PE separately rather than as a single undifferentiated aspect of adult life. Their rates of decline may differ, perhaps faster for PE, and quite different efforts may be needed to sustain them in older adulthood. For example, it is possible to maintain or even increase CE by adjusting one's effort to fit one's capability and environment through such mechanisms as selection, compensation, and optimization (Baltes & Smith, 1999).

To conclude, the present research differentiates Rowe and Kahn's (1998) single social engagement component into two separate aspects that are distinct in Chinese culture and confirmed empirically by data collected from middle-aged and older adults in Hong Kong. The resultant model is a positive response to the call for new conceptualizations of successful aging to address cultural (Chong et al., 2006) and social (Dillaway & Byrnes, 2009) aspects. Its measurement tool is relatively simple to administer and both the longer (18 items) and shorter (12 items) versions are equally valid for future research in Chinese societies, possibly also in others.

APPENDIX

English translation of the questionnaire. (Answers were given on a 5-point scale ranging from "not at all" to "frequently," "very poor" to "very good," and so forth.)

(a) *Illness avoidance*

Over the past month . . . Q1: has any bodily pain affected your performance of work or other essential tasks? Q2: have you used medication or therapy? Q3: were you healthy enough to move around freely? Q4: Overall, your present health is very poor . . . very good.

(b) *Functioning*

Q5: Recently, do you have enough energy for daily life?

Q6: Have you been sleeping well recently?

Q7: In the past month, when you tried to recall familiar names or words, how often were you unable to do so?

Q8: Can you perform two or more tasks simultaneously, for example, watch TV while discussing something else with another person?

Q9: Presently, are your body and mind strong enough to enable you to live independently without having others to take care of you?

(c) *Engagement with life (CE)*

With respect to people listed below, how much concern and support have you provided to enrich their lives? Q10: family members? Q11: other relatives?

Q12: your neighbors? Q13: others (friends, colleagues, workmates, etc.)? Q14: Overall, how concerned and supportive have you been to people around you to enrich their lives?

(d) *Engagement with life (PE)*
How much financial or productive contribution are you making to . . . Q15: your family? Q16: your career and work? Q17: the community and non-profit making organizations? Q18: Overall, how would you rate your contributions to society as a whole (including contributions made to your family, your career and work, and the community)?

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