

Psychological detachment and savoring in adaptation to cancer caregiving

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Abstract

Background: Recovery experience including psychological detachment from caregiving and savoring positive moments in life could be complementary coping processes for cancer caregivers. This study aims to examine the nature of their associations with caregiving burden and anxiety and depressive symptoms among Chinese cancer caregivers in Hong Kong.

Methods: A total of 155 Chinese caregivers of recently diagnosed cancer patients (mean time since diagnosis = 42.57 days, *SD* = 39.25) were recruited from two major government-funded hospitals and administered a questionnaire assessing psychological detachment, savoring, caregiving burden, anxiety and depressive symptoms, and demographics.

Results: Controlling for demographic and medical covariates, structural equation modeling revealed significant associations of detachment, savoring, and their interaction term with caregiving burden and anxiety and depressive symptoms. Detachment and savoring were inversely associated with caregiving burden only when the other was at lower/medium levels. Detachment was inversely associated with anxiety and depressive symptoms at lower/medium levels of savoring, but savoring was inversely associated with anxiety and depressive symptoms across all levels of detachment.

Conclusions: Detachment and savoring could overshadow the positive impact of the other on caregiving burden if either one is at higher levels, while they could demonstrate concurrent positive impact on burden when both are at lower/medium levels. Savoring could have a prioritized role in ameliorating caregivers' anxiety and depressive symptoms, supplemented by detachment.

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Background

Advances in cancer detection and treatment have substantially prolonged patients' lifespan. A growing number of informal caregivers are voluntarily forced to care for their ill close social partners and shoulder their life-and-death responsibility. Structured clinical interview has identified psychiatric disorders, including major depressive disorder, panic disorder, generalized anxiety disorder, and post-traumatic stress disorder, among 13% of caregivers of people with advanced cancers (*N* = 200) [1]. About 67% of 300 Korean caregivers reported high/very high levels (>13) of depressive symptoms on the Beck Depression Inventory [2]. Among 436 Australian caregivers, at least one-third reported borderline/clinical levels of anxiety symptoms and up to 16% reported borderline/clinical levels of depressive symptoms at 6 and 12 months post-diagnosis [3]. The burden of assisting cancer patients in

activities of daily living [2,4] and providing patients with emotional support [5,6] have been frequently reported; these caregiving burdens were consistently associated with higher psychological distress.

Many caregivers are unpaid close social partners experiencing existing competing demands such as full-time job and taking care of their own children/family [7]. Apart from psychosocial correlates and mental and behavioral strategies for coping with caregiving demands, qualitative evidence suggests that cancer caregivers desire for daily 'time out' away from the patient, such as going for a walk or just being alone [8,9]. Positive moments in the everyday life of Indian female cancer caregivers included improved patient's health, talking with family/friends to obtain emotional support, taking a few hours away from caregiving and being engaged in pleasurable activities such as gardening and taking time to recollect positive aspects of their past and current life [10]. Taken

together, 'time-out' and mental/behavioral engagement in pleasurable experiences could be important coping processes in the everyday life of cancer caregivers. There is a need to identify relevant conceptual frameworks that guide further empirical investigations.

Fulfillment of the unpaid round-the-clock caregiving duty could be as demanding as meeting the demands in a paid job everyday [7]. Recovery experience refers to attempts to reduce physical and psychological distress that are brought about by, for example, job demands or recurrent stressful events at work [11-13]. One prototypical recovery experience is psychological detachment, denoting withdrawal from work-related activities and mental disengagement from job during non-work time [14]. For instance, workers could refrain from being involved in work-related tasks and from thinking about work-related issues during non-work time. The stressor-detachment model [15] suggests that sustained stress responses have significant impact on physical and mental health even when the stressor is not present. If workers could mentally detach from the job, negative physical and psychosocial impact of job demands could be reduced [14,15]. Across multiple samples of workers, psychological detachment was associated with higher psychological well-being and lower perceived stress, burnout, emotional exhaustion, and psychological distress [14,16,17]. The model further proposes that lack of detachment will be less harmful to psychological functioning if individuals are able to capitalize/savor the positive aspects of work events, as thinking over or discussing positive contents of work could contribute to better psychological well-being [15]. Similarly, lack of savoring of positive moments or events is suggested to occur in conjunction with a stronger association between detachment and psychological functioning, as detachment could avoid an increase in work-related strain during non-work time [15].

Psychological detachment during non-caregiving time could be a recovery process for cancer caregivers, contributing to less caregiving burden and better psychological functioning. Also, if detachment and capitalizing positive work events could complement each other in reducing work-related strain and distress, then psychological detachment and savoring/capitalizing positive moments could also complement each other in adaptation to cancer caregiving stress. A recent daily diary study has reported that more frequent sharing of positive events over a day between women with breast cancer and their spouses ($N=99$ pairs) predicted higher daily positive affect and relationship intimacy and lower daily negative affect [18]. Apart from spousal sharing of positive experience, individual capability to attend to past, present, and anticipatory positive experiences also impacts adaptation to daily life stress [19]. According to the savoring theory, the three major savoring tendencies are reminiscing past positive experiences, savoring the moment, and anticipating

upcoming positive experiences [20]. Among them, savoring the moment as strategic cognitions and behaviors has the strongest impact on amplifying the intensity and duration of psychological well-being [19]. In a daily diary study of 164 undergraduate young adults, savoring the moment predicted subsequent higher positive affect and satisfaction with life [21]. Savoring has also been inversely associated with symptoms of subtypes of anxiety disorders, controlling for the levels of lifetime depressive symptoms ($N=248$) [22].

This study aims to investigate the nature of associations among psychological detachment, savoring, and psychological outcomes in Hong Kong Chinese caregivers of recently diagnosed cancer patients. In Hong Kong, the most developed city in the People's Republic of China, cancers accounted for 30% of the deaths ($N=13,727$) in 2014, remaining the leading cause of death for over 20 straight years [23]. The mortality rate of the top four causes of cancer deaths, namely lung, colorectum, stomach, and liver, has been decreasing in the past decades [24]. Despite a wealth of evidence on demographic and lifestyle predictors, such as age, income, and sleeping habit [25], relatively little is known about the psychosocial correlates of adaptation among Chinese cancer caregivers [25,26]. Based on the stressor-detachment model, we hypothesize the following:

Hypothesis 1

Detachment and savoring are associated with lower caregiving burden and psychological distress.

Hypothesis 2

The interaction term of psychological detachment and savoring is associated with caregiving burden and psychological distress. If savoring is low, the inverse association of psychological detachment with caregiving burden and psychological distress will be stronger. If detachment is low, the inverse association of savoring with caregiving burden and psychological distress will be stronger.

Methods

Procedure

Upon obtaining Ethics Committees' approvals from The Hong Kong Institute of Education and the Hospital Authority, recruitment was conducted in the outpatient clinics of the Department of Surgery of Pamela Youde Nethersole Eastern Hospital and the Department of Clinical Oncology of Princess Margaret Hospital, two major government-funded hospitals, between January 2012 and May 2014. Inclusion criteria of patients were (i) 21 years of age or older, (ii) Cantonese fluency, (iii) histological diagnosis of a primary cancer of lung, colorectum, stomach,

or liver within the past 6 months, and (iv) no prior malignancies and associated therapies. Exclusion criteria of patients and caregivers were known medical history of psychiatric disorders, linguistic/intellectual difficulties, existing medical condition(s) such as hypertension, diabetes, and cardiovascular disease, or brain metastasis (patients only). Psychiatric histories and existing medical conditions were chosen because the aim of this project is to establish an initial knowledge base about adjustment to cancer caregiving among Chinese people; these conditions and their associated medical/psychological treatments may inadvertently confound the self-report of psychosocial variables. Surgeons or clinical oncologists identified suitable patients and introduced the study to them; voluntary participation and data confidentiality were emphasized. Surgeons/oncologists then referred patients to researchers of the study upon obtaining their initial verbal consent. Researchers confirmed the eligibility of the potential participants based on hospital charts, fully apprised them of the study, and obtained their written informed consent. Each patient was asked to identify a caregiver who conducted and coordinated the majority of his or her daily home care needs without financial reimbursement for the care. A total of 186 caregivers were referred by the patients, among which 25 refused to participate. One hundred fifty-five consented participants completed the questionnaire via face-to-face interview in the clinics/their home. Patients of six consented participants passed away before the interview. Chi-squared tests did not reveal significant differences in age and sex between the participants ($N=155$) and the caregivers who refused participation ($N=25$).

Measures

No Chinese measures were available for assessing detachment and savoring. To begin with, the research team reviewed existing English measures of psychological detachment [14] and savoring [20] and agreed that the items describe culturally universal behaviors that could be common and relevant among the Chinese participants. The items were translated into Chinese by a trained bilingual translator and then back-translated by a naïve second translator. The translation process adopted a combined etic-emic approach to preserve the original English meanings and used Cantonese expressions (the official Chinese spoken language in Hong Kong) that were equivalent to or approximate the English meanings. The authors examined and achieved semantic and conceptual equivalence of the original and back-translated versions. Discrepancies in the two versions were resolved by joint meetings between the translators and the research team and when necessary by reiteration of the translation process.

Demographic and medical characteristics

A standardized pro-forma was used to obtain demographic information, including age, sex, marital status, education level, employment status, monthly household income, years of residence in Hong Kong, relationship to the patient, and living with the patient or not. A chart review data sheet was used to obtain patients' diagnostic (site/sub-site, stage, and time since diagnosis) and treatment (type and time of surgery and adjuvant therapies) information from hospital charts.

Psychological detachment

Four back-translated items [14] were adapted to assess the extent to which caregivers behaviorally and mentally disengage from caregiving duty during non-caregiving time over the past week (1 = do not agree at all, 5 = fully agree), sample items: 'I get a break from the demands of caregiving.'; 'I distance myself from my caregiving duty.' (range = 4–20). The measure was found to be reliable (0.84–0.85) and associated with job demands and adjustment outcomes [14,17]. Alpha was 0.77 in the current administration.

Savoring

Four back-translated items [20] assessed the tendency to derive pleasure from positive events over the past week, sample items: 'Know how to make the most of good time.'; 'Feel fully able to appreciate good things.' Participants rated each item on a 5-point scale (1 = strongly disagree, 5 = strongly agree). Scores were calculated by summing across the eight items after reverse coding the four negatively worded items (range = 8–40). The scale was found to be reliable ($\alpha=0.68$ –0.89) across five college samples and one elderly sample [19]. In the current administration, α was 0.81.

Caregiving burden

Twelve items were adapted from the Chinese version of the Zarit Burden Interview (ZBI) to assess cancer caregiving burden [27]. Participants rated the frequency of each item on a 5-point scale (1 = never, 5 = nearly always). Higher scores indicated greater burden (range = 12–60). The English ZBI has been found to be reliable and valid among cancer caregivers [28]. The Chinese ZBI was reliable ($\alpha > 0.80$) and correlated with physical and psychological outcomes among dementia caregivers [27]. Alpha was 0.86 in this administration.

Anxiety symptoms

The Chinese version of the 6-item state version of the State-Trait Anxiety Inventory was used to assess anxiety symptoms on a 5-point scale (1 = not at all; 4 = very much) [29]. Scores on the three anxiety-absent items were

reverse coded. Higher scores indicated higher anxiety symptoms (range=0–18). The Chinese State–Trait Anxiety Inventory has been found to be reliable ($\alpha=0.90$) [29]. Alpha was 0.84 in the current administration.

Depressive symptoms

The Chinese version of the 21-item Beck Depression Inventory-II was used to assess depressive symptoms on a 4-point scale (e.g., 0=I do not feel sad; 1=I feel sad; 2=I am sad all the time; 3=I am so sad or unhappy that I can't stand it); higher scores indicated higher depressive symptoms (range=0–63) [30]. The Chinese Beck Depression Inventory-II has been demonstrated to be reliable ($\alpha > 0.90$) [30]. Alpha was 0.91 in the current study.

Patients' physical symptoms

Patients' physical symptoms were measured using physical symptom subscale of the Chinese version of Memorial Symptom Assessment Scale [31]. On a 4-point scale, participants rated 12 common cancer-specific physical symptoms with respect to frequency, severity, and distress (e.g., 0=none, 4=almost all the time) in the past week. A total score was calculated by summing across all items (range=0–144). Alphas were 0.79 in the validating study [31] and 0.88 in the current administration.

Analytic plan

Correlation and Mann–Whitney *U* tests identified potential confounding demographic or medical variables. Structural equation modeling was performed using Mplus 7.11 [32]. Summed scores of the study variables were used as observed variables in the models. Covariances between outcome variables and between predictor variables were controlled for in all models. Covariates consisted of demographic and medical variables that were significantly correlated with the study variables in the models. First, a model was constructed to test the associations of detachment and savoring with caregiving burden and anxiety and depressive symptoms (*Hypothesis 1*). Next, an interaction term detachment \times savoring was added as an exogenous variable of the outcomes (*Hypothesis 2*). To avoid multi-collinearity, standardized scores on detachment and savoring were used in the calculation of the interaction term [33]. We conducted simple slope tests on all significant interactions [33]. Scores at one *SD* above and below the mean indicated higher and lower levels of detachment/savoring, whereas scores within one *SD* of the mean indicated medium levels. Comparative fit index (CFI), Tucker–Lewis Index (TLI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR) were used to evaluate data–model fit [34]. The

models were accepted if CFI and TLI > 0.90 , RMSEA < 0.08 , and SRMR < 0.08 [34].

Results

Sample characteristics

The 155 caregivers/participants ranged in age between 19 and 85 years ($M=52.13$; $SD=13.45$; median=52.01); 113 (72.9%) were women and 128 (82.6%) were married. Eighty-one of them (52.3%) were spouses of the patient and the remainder were sons/daughters ($N=63$, 40.6%), grandchildren ($N=1$, 0.6%), and relatives/friends ($N=10$; 6.5%); 117 (76%) lived with the patients. Six (3.9%) participants had no formal education, 25 (16.1%) primary education, and 124 (80%) at least secondary education. Half of the participants ($N=78$) reported having a full-time/part-time employment, six reported being unemployed (3.9%), 34 were retired (21.9%), and 37 (23.9%) were housewives. Thirty-six (23.2%) reported a monthly household income of HK\$10,000 or below, 49 (31.6%) HK\$10,001–\$20,000, 28 (18.1%) HK\$20,001–\$30,000, 23 (14.8%) HK\$30,001–\$40,000, and 19 (12.3%) HK\$40,000 or above (US\$1 \approx HK\$7.80). Among them, 112 (72.3%) were caregivers of patients with colorectal cancer, 30 (19.4%) lung cancer, 10 (6.5%) stomach cancer, and three (1.9%) liver cancer. Eleven patients (7.1%) were diagnosed with disease at Stage I, 33 Stage II (21.3%), 68 Stage III (43.9%), and 43 Stage IV (27.7%) based on the American Joint Committee on Cancer staging system. Mean time since diagnosis was 42.57 days ($SD=39.25$; range=1–179 days). One hundred fourteen patients (73.5%) had received curative/palliative surgery and 43 (27.7%) were undergoing neoadjuvant/adjuvant therapies at the time of survey.

Moderation model

The model with detachment, savoring, and the three outcomes demonstrated good data–model fit: $\chi^2(23)=26.30$, $p=0.29$; CFI=0.99; TLI=0.98; RMSEA=0.03; SRMR=0.06. Both detachment and savoring were significantly inversely associated with caregiving burden and anxiety and depressive symptoms (detachment: $\beta=-0.25$ to -0.16 , $p < 0.05$; savoring: $\beta=-0.38$ to -0.33 , $p < 0.0001$). Data–model fit remained good after adding the interaction term: $\chi^2(25)=27.61$, $p=0.33$; CFI=0.99; TLI=0.99; RMSEA=0.03; SRMR=0.06 (Figure 1). Detachment \times savoring was significantly positively associated with caregiving burden and anxiety and depressive symptoms ($\beta=0.16$ to 0.22 , $p < 0.05$). Caregivers' employment status ($\beta=-0.21$ to 0.13) and years of residence in Hong Kong ($\beta=-0.14$), and patients' age ($\beta=-0.26$ to -0.12), income level ($\beta=-0.16$), and physical symptoms ($\beta=-0.25$) were included as exogenous confounding variables in both models ($p=0.0001$ – 0.049).

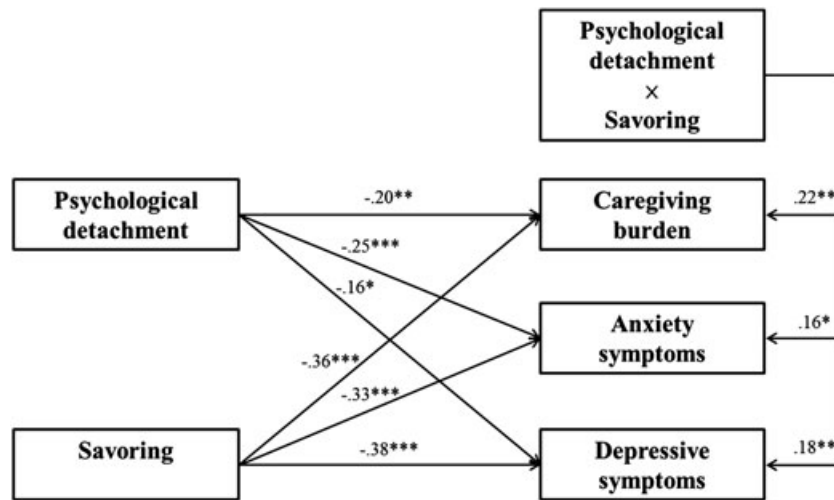


Figure 1. Standardized estimates of the moderation model. Confounders and covariances between predictor variables and between outcome variables were not shown. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

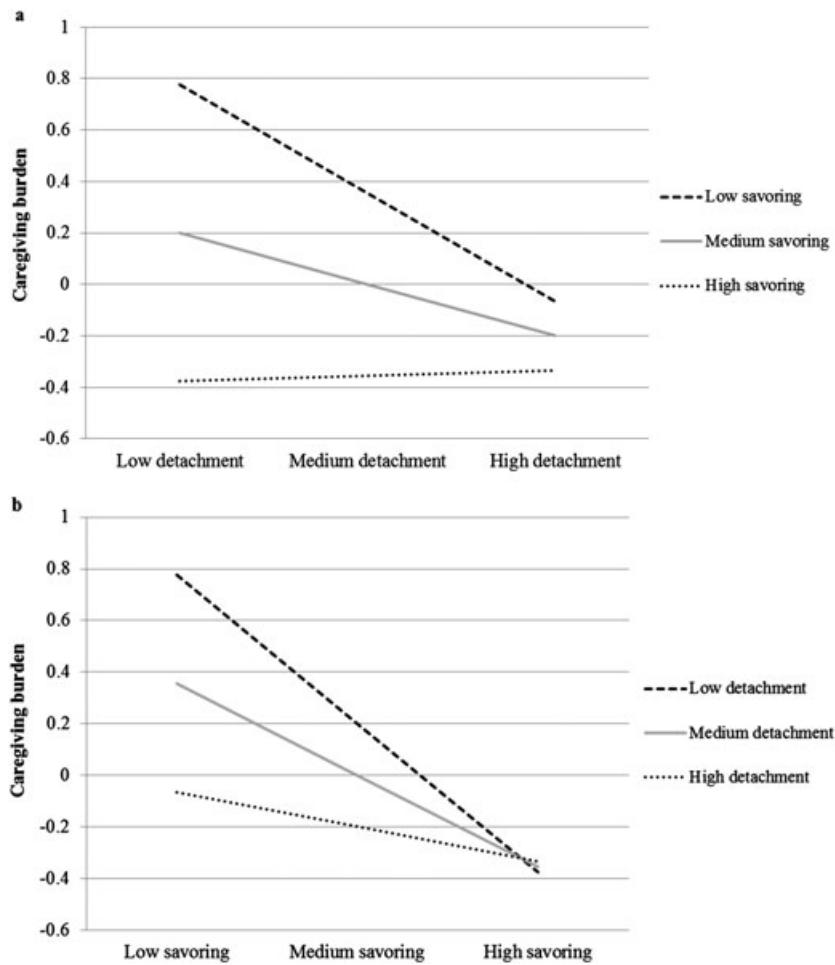


Figure 2. Plot of the moderating effects of (a) savoring and (b) psychological detachment in terms of caregiving burden.

Simple slope tests

Simple slope tests revealed that detachment and savoring were inversely associated with caregiving burden if the other was at lower/medium levels (estimate = -4.67 to -1.69 , $z = -5.78$ to -2.73 , $p < 0.01$) but not at higher levels (estimate = -0.001 and -1.303 , $z = -0.001$ and -1.60 , $p = 1.00$ and 0.11) (Figure 2). Detachment was inversely associated with anxiety and depressive symptoms at lower/medium levels of savoring (estimate = -2.19 to -0.98 , $z = -4.23$ to -2.25 , $p < 0.05$) but not higher levels of savoring (estimate = -0.44 and -0.01 , $z = -1.22$ and -0.02 , $p = 0.22$ and 0.98). The inverse associations of savoring with anxiety and depressive symptoms were significant at all levels of detachment (estimate = -3.70 to -0.72 , $z = -5.70$ to -2.01 , $p < 0.05$) (Figures 3 and 4).

Discussion

The present findings partially supported the study hypotheses. Controlling for caregivers' employment status and years of residence in Hong Kong, and patients' age and

reported income level and physical symptoms, detachment and savoring were both inversely associated with caregiving burden and anxiety and depressive symptoms (*Hypothesis 1*). The interaction term of detachment and savoring was significantly associated with lower caregiving burden and anxiety and depressive symptoms (*Hypothesis 2*). Detachment and savoring were inversely associated with caregiving burden only when the other was at lower/medium levels. Detachment was inversely associated with anxiety and depressive symptoms at lower/medium levels of savoring, but savoring was inversely associated with anxiety and depressive symptoms across all levels of detachment.

This study is the first of its kind to borrow the conceptual model of psychological detachment to study psychological adaptation among cancer caregivers. Psychological detachment and the stressor-detachment model were originally proposed for occupational settings. The central thesis is that discontinuing the psychological and physiological impact of job demands in non-work time results in lower work-related strain and distress [14,15]. As cancer patients transit from

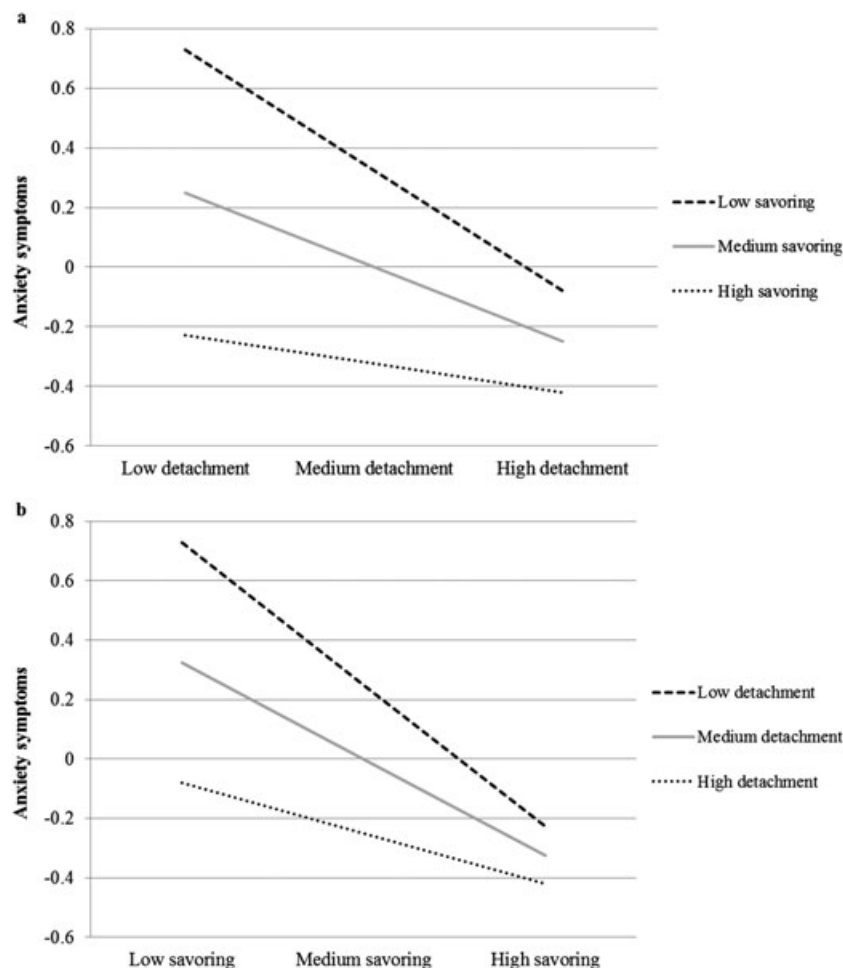


Figure 3. Plot of the moderating effects of (a) savoring and (b) psychological detachment in terms of anxiety symptoms.

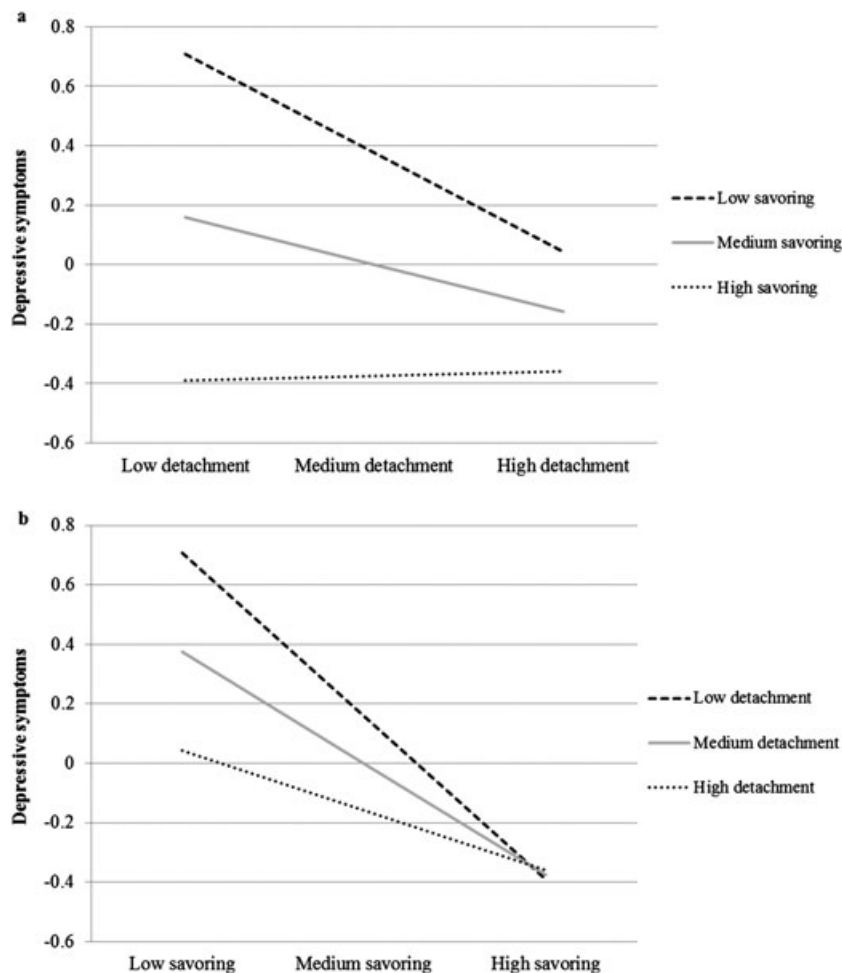


Figure 4. Plot of the moderating effects of (a) savoring and (b) psychological detachment in terms of depressive symptoms.

active treatment to day-to-day self-care, caregivers play an increasing role in patients’ disease progressions and daily living [2,4]. Our findings suggest that behavioral and mental disengagement from caregiving-related activities during non-caregiving time is an important coping process for cancer caregivers or possibly caregivers of patients with other chronic medical conditions.

Savoring was inversely associated with anxiety and depressive symptoms independent of the extent to which caregivers could detach from their caregiving duty, suggesting the priority of savoring over detachment in adaptation to caregiving. Savoring-related interventions have been found to be effective in reducing psychological distress among otherwise healthy and psychiatric populations within Western cultural origins [18,19]. Cross-cultural evidence suggests that contrary to people in the West, East Asians regard positive and negative emotions as moderately desirable and undesirable, and emotion well-being is a balance between positivity and negativity achieved through moderation instead of maximization [35]. Based on the current findings in Chinese caregivers, practicing savoring in daily life could

demonstrate a strong positive psychological impact on caregivers in the West.

The findings also add to the current understanding on the impact of emotion-focused coping among cancer caregivers. Emotion-focused coping has been assessed and used to describe distancing, negative emotional control, avoidance, and positive appraisal and demonstrated either null or positive associations with psychological distress among cancer caregivers [36,37]. An important point to note is that emotion-focused coping as measured by existing self-report instruments refers to mental and behavioral responses that aim to deal with negative thoughts/feelings relating to the demands, whereas savoring could be proactive and reactive processes of attending to and being fully engaged in positive experiences. Almost none of the previous studies assessed the impact of up-regulation of positive emotions/experiences on adjustment to cancer caregiving [38]. Our findings provide important preliminary evidence for this line of research.

This study provides conceptual and empirical support to previous qualitative evidence on caregivers’ desires for ‘time out’ and engagement in enjoyable experiences as

coping in everyday life [8-10]. The stressor-detachment model proposes a complementary relationship between detachment and savoring/capitalizing positive events in reducing work-related strain and distress [14,15]. The present findings could further be evaluated in light of the resource substitution hypothesis, which proposes that some resources substitute each other and contribute to better psychological functioning in stress adaptation, especially among individuals who have more limited access to other alternative resources [39]. For instance, education is more strongly associated with well-being among women than men because women have fewer alternative resources such as income and power to achieve well-being [39]. Among caregivers with lower or average capability of savoring positive experiences in life, they might experience less positive emotions and cognitions, positive emotion regulation, and associated adaptive coping strategies [19]. The findings suggest whereas savoring could have an independent impact on adaptation to cancer caregiving, detachment from caregiving duty in non-caregiving time could substitute reduced positive impact of savoring on anxiety and depressive symptoms [15].

Limitations and conclusions

A number of limitations warrant attention. First, this study was conducted in a relatively small ($N=155$) convenient sample of Chinese cancer caregivers. Sociocultural characteristics could limit the generalizability of the findings to patients in other cultural contexts. Second, we recruited only caregivers of patients with lung, colorectal, stomach, and liver cancers, the top four causes of cancer death that are characterized by reduced mortality rates in recent years in Hong Kong [24]. Because caregivers of patients with other common cancer types such as breast and prostate were not included, representativeness of the findings could be promised. Third, although psychological

detachment and savoring are conceptually predictors of caregiving burden and psychological distress, because this study was cross-sectional in nature, we cannot determine causality from the associations between the predictors and the outcomes. Fourth, the items assessing detachment and savoring did not undergo psychometric validation, although they were back-translated and examined by bilingual oncologists, surgeons, and psychologists and turned out to be reliable ($\alpha \geq 0.77$) and valid.

Notwithstanding the aforementioned limitations, this study offers novel evidence on the interactive associations of detachment and savoring with psychological outcomes in cancer caregiving, providing feasible directions for developing psychosocial care services for not only Chinese caregivers but also those in other sociocultural contexts. Full-time caregivers could be instructed to identify non-caregiving time for detachment and set up specific routines for caregiving and non-caregiving throughout a day; working caregivers could be instructed to utilize working hours and caregiving time as detachment moment for each other [40]. Concurrent intervention could be targeted on teaching them strategies for disengaging from the caregiving duty during non-caregiving time and techniques for savoring including emotional expressions, memorizing positive experiences for future recall, and sharing positive experiences with others [18,19].

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Conflict of Interest

The authors declare that they have no conflict of interest.

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