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Daily Hassles and Health: The Protective Role of Optimism among Chinese Adults in Hong Kong

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Abstract

Objectives. This study examined the relations between daily hassles, dispositional optimism, mental distress and physical health, as well as the role of dispositional optimism in moderating the effect of hassles on mental and physical health among Chinese adults in Hong Kong.

Method. Data on daily hassles, optimism, mental distress and physical health were collected from a convenient sample of 188 adults by means of a self-administered questionnaire which included the translated Chinese versions of the Survey of Recent Life Experiences (SRLE), Revised Life Orientation Test (CRLOT), General Health Questionnaire-12 (GHQ-12), and Physical Health Questionnaire (PHQ).

Results. With the use of principle axis factoring followed by direct Oblimin rotation, three SRLE factors including Social and Financial Hassles, Time Pressure, and Work Hassles were extracted. Findings revealed that more hassles were related to higher mental distress and poorer physical health. In contrast, higher levels of optimism were associated with lower mental distress and better physical health. Moreover, optimism moderated the adverse effect of work hassles on mental distress at low levels of work hassles. Optimism also buffered the detrimental effect of work hassles on physical health when work hassles increased.

Discussion. Findings were discussed in relation to the influence of culture on the factor structure of the SRLE, the negative effect of hassles, the direct and positive impact of optimism, as well as the moderating role of optimism in protecting individuals against the detrimental effect of work hassles on mental distress and physical health. Implications of optimism for the smooth migration into different stages of adulthood and promotion of optimistic thinking at the workplace were also
discussed. Longitudinal studies in these directions and on the buffering role that
optimism and other stress moderators play in protecting individuals against the adverse
impact of hassles on health are warranted.
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Positive psychology, with its new orientation on human strengths and positive functioning, have motivated psychologists to progress from an almost exclusive emphasis on pathology to a more appreciative perspective on human potentials, motives and capacities (Fabricatore, Handal, & Fenzel, 2000; Seligman, 1998, Seligman & Csikszentmihalyi, 2000; Sheldon & King, 2001; Snyder & Lopez 2007). Dispositional optimism, being one of the positive psychological traits, has been the subject of a great deal of research in the past two decades, particularly on its protective role in buffering individuals against stress as indexed by various adaptational outcomes.

**Hassles and Health**

A growing body of research suggests that stress is detrimental to mental and physical well-being (Majella de Jong, Timmerman, & Emmelkamp, 1996; Fabricatore et al., 2000; Odgen, 2007). Similar to residents in other international cities, people in Hong Kong are subject to the influences of different kinds of stressors. Stress occurs when a person appraises the environment as exceeding his or her resources, and poses harm, threat and challenge to his or her well-being. Stressors are external stimuli or events that trigger the stress response; stressors can be major events that affect a large number of persons (e.g., natural disasters), or those that affect specific individuals like life-threatening illnesses. Stressors can also be daily hassles or minor events which are associated with less stressful experience but nonetheless can irritate and distress people (Lazarus & Folkman, 1984).

Early studies have revealed that daily hassles such as conflicts with family members or colleagues, work problems, time pressure, or financial difficulties were inversely related to psychological and physical health (Banez & Compas, 1990;
Delongis, Folkman, & Lazarus, 1988; Lai, 1995; Lai, Hamid, & Chow, 1996; Majella de Jong et al., 1996). Daily hassles not only affect well-being by having immediate and direct impact on emotional and physical functioning, but also by piling up over a number of days to create persistent irritations and frustrations (Almeida, 2005). Hassles also appear to be even more strongly related to psychological and physical health than major life events (Kanner, Coyne, Schaefer, Lazarus, 1981; Ruffin, 1993).

**Dispositional Optimism and Stress**

While stress is part of life, the same event may not be perceived as equally stressful by different individuals (Lazarus & Folkman, 1984; Slavin, Rainer, McCreary & Gowda, 1991). The experience of stress is a function of how one appraises a given situation, and the appraisal process is influenced by individual perceptions and interpretations (Khoo & Bishop, 1996). Dispositional optimism, which is conceptualized as the generalized tendency to expect positive outcomes in life (Scheier & Carver, 1985), is one of the personality factors which may influence the way a person appraises an event, his or her reactions to the event, and thus the outcomes of the behavior (Mäkikangas & Kinnunen, 2003).

Optimism is associated with more adaptive immune changes during stressful events or encounters. For instance, optimists tend to have more helper T cells which are essential immunoregulatory cells that mediate immune reactions to infections (Segerstrom, Taylor, Kemeny & Fahey, 1998). Findings from a twin/adoption study also suggested a substantial genetic effect on optimism (Plomin et al., 1992). This personality dimension is generally considered to be a stable characteristic that an individual will display consistently across time and contexts (Schou, Ekeberg, Sandvik, & Ruland, 2005; Vickers & Vogeltanz, 2000).
The Life Orientation Test (Scheier & Carver, 1985; LOT) has been one of the most popular instruments used to measure dispositional optimism. Although LOT is typically considered to be a unidimensional bipolar measure of dispositional optimism, there have been debates whether the construct is unidimensional or bidimensional. In light of this controversy and the concern about the overlap of LOT with tests that measure other constructs like neuroticism, a revised version of the scale LOT-Revised (LOT-R) was subsequently developed (Scheier, Carver, and Bridges, 1994). This revised test has proven to have considerable overlap with the original LOT. Although there are still controversies on the dimensionality of optimism, Lai (1997) concluded from the study among Hong Kong Chinese a one-factor conceptualization is favored, for the reason of parsimony.

With a positive orientation to life, optimists tend to expect things to go their way and generally believe that good things rather than bad things will happen to them. Optimists are likely to emphasize the positive aspects of stressful events while pessimists tend to focus on negative feelings (Scheier, Weintraub, & Carver, 1986). As optimists are also likely to appraise daily stressors in terms of potential growth and tension reduction (Snyder & Lopez, 2007), a stressful event can thus be appraised as less threatening or even challenging and hence less stressful by optimists.

Optimism, Stress and Health

Optimism not only helps individuals adapt to stressful events more successfully, it also protects health (Taylor, Kemeny, Bower, Gruenewald, & Reed, 2000). Results of studies on optimism have converged impressively on the protective role of optimism either directly or indirectly via the use of active and problem-focused
coping strategies (reviewed by Scheier & Carver, 1992; Scheier, Carver, & Bridges, 2001).

Direct effects. Optimism has a direct and positive effect on mental health. Greater optimism is associated with fewer psychological symptoms (Khoo & Bishop, 1996; Plomin et al., 1992). Optimism was found to be strongly and positively related to psychological well-being and inversely related to distress among patients diagnosed with cancer (Miller, Manne, Taylor, Keates, & Dougherty, 1996). Optimistic patients recovering from heart surgery also reported lower levels of depression than did pessimists (Scheier et al., 1989).

Similar positive effect of optimism has also been observed at the workplace and during transition to college. Tuten and Neidermeyer (2004) found that optimistic workers at call centers experienced lower level of job stress than their less optimistic peers; and Mäkikangas and Kinnunen (2003) also reported that optimism predicted lower mental distress among employees in a Finnish sample. Added to these are findings from college students. More optimistic undergraduates tend to have lower levels of psychological stress that those who are less optimistic (Aspinwall & Taylor, 1992). They are also less likely to experience increase in stress and depression during their life transition (Brissette, Scheier, & Carver, 2002).

Optimism confers positive benefits on physical well-being as well (Carver et al., 1993; Khoo & Bishop, 1996; Scheier & Carver, 1992). Past research has demonstrated that optimism is an important predictor of faster physical recovery during hospitalization, a faster rate of return to normal life activities subsequent to discharge, better post-surgical quality of life (Scheier et al., 1989), as well as a lower rate of rehospitalization after coronary artery bypass graft surgery (Scheier et al., 1999).
Optimism also bestows benefits on college students who are under academic stress. Scheier and Carver (1985) found that optimistic college students reported fewer physical symptoms than those who were pessimistic during the final weeks of the semester. The study by Aspinwall and Taylor (1992) provided further evidence that higher optimism predicted better self-reported physical health and fewer symptoms over a three-month period. A negative correlation between optimism and symptom reporting has also been observed among undergraduates in Hong Kong (Lai, 1997).

Indirect effects via the use of different coping strategies. In addition to its direct positive influence, optimism is also connected to health indirectly through the choice of coping strategies. Although stress is an inevitable aspect of life, it is coping that makes a difference in adaptational outcomes (Lazarus & Folkman, 1984), and the lower level of stress experienced by optimists is associated with the effective selection of coping strategies (Iwanaga, Yokoyama, & Seiwa, 2004).

Optimists tend to use more active, problem-focused strategies in managing stressful events whereas less optimistic individuals are likely to adopt avoidance strategies in similar situations (Scheier & Carver, 1985; Scheier et al., 1986). The use of active coping efforts helps individuals to guard against stressful events before their full implications may be felt. Such abilities to cope actively and proactively may minimize the adverse physiological effects of stress (Taylor et al., 2000). In a study of students entering college, Aspinwall and Taylor (1992) found that greater optimism was related to more frequent use of active coping which in turn predicted better adjustment to college.

In the clinical context, optimism has been reported to correlate positively with the adoption of problem-focused coping and negatively with the use of denial among
a sample of middle-aged men recovering from coronary artery bypass surgery (Scheier et al., 1989). Optimistic breast cancer patients who relied on active, problem-focused coping also reported being more “planful” and less use of avoidant coping when confronting stressful events (Carver et al., 1993).

*Moderating effects.* Apart from studying the association between optimism and health either directly or indirectly, other studies have also examined the moderating effect of optimism on the relation between stressors and health (Scheier & Carver, 1992).

Previous studies have revealed that optimism can buffer the detrimental effects of stress on physical health. Optimism was found to play a key role in moderating the impact of stress on immune responses among a group of breast cancer patients as measured by natural killer cell activity whose levels were lowest in women with high stress and low optimism (Von Ah, Kang & Carpenter, 2007). Optimism also moderated the tendency to become depressed after stressful life events of childbirth. Its effect was found to be most pronounced among women who initially were not depressed, suggesting that optimism confers resistance to the development of depressive symptoms 3 weeks postpartum (Carver & Gaines 1987). The study by Grote and Beldsoe (2007) provided further evidence that optimism buffered the positive relations between financial, spousal, and physical stress experienced before the birth and depression severity at 6 and 12 months postpartum.

Optimism moderates the association between stress and psychological distress in non-clinical contexts as well. Moderating effect of optimism was reported between stress exposure and severity of depression in a sample of financially disadvantaged women (Grote, Bledsoe, Larkin, Lemay, & Brown, 2007). Findings
showed that when women were optimistic about the future, experiencing a high level of acute and chronic and stressors did not place them at risk for clinically significant depression in comparison with those who were pessimistic. Optimism also serves as a moderator in alleviating the adverse effect of stress on the psychological well-being of college students (Chang, 1998).

Optimism plays a protective role in work settings as well. Mäkikangas and Kinnunen (2003) reported that optimism moderated the relations between psychosocial work stressors and mental distress among female employees. Lai and Wong (1998) also found that less optimistic women were more psychologically impaired by losing their jobs than those who were more optimistic, suggesting that optimism is an important personal resource for coping with unemployment among Chinese in Hong Kong. Whether unemployment can impair psychological health depends on how optimistic a person is and being optimistic gives a protective effect.

Added to these findings is the study by Chang (2002) which showed that the interaction of optimism and stress significantly predicted psychological symptoms among younger and older adults, and the influence of appraised stress was exacerbated among pessimists. Similar results were replicated in another study among a sample of adolescents (Chang and Sanna, 2003). The interaction of optimism and recent hassles significantly predicted psychological adjustment. Less optimistic adolescents experienced greater depressive symptoms under conditions of high chronic stress than those who were more optimistic.

Apart from its stress-buffering effect on mental health, optimism also moderates the effect of stress on physical health. In a study of Chinese people diagnosed with coronary heart disease, significant interaction was observed between the rehabilitation program and personal resilience which is a composite
measure of optimism, perceived control and self-esteem. Participants with higher resilience scores exhibited better improvement in physical health when compared with those with lower resilience scores. One possible explanation contributing to this positive adjustment is the operation of optimism (Chan, Lai, & Wong, 2006). Optimism has health implications when individuals encounter daily hassles as well. Optimism was found to buffer the impact of daily hassles on symptoms of physical illness in a study of female executives (Fry, 1995). Similar moderator effect was observed among college students (Lai, 1995). The interaction between hassles and optimism was a unique predictor of physical symptoms, indicating that the nature of relations between hassles and symptom reports depends on the optimism scores. Increase in hassles had less adverse effect on optimistic undergraduates than on their less optimistic peers.

Taken together, the above review suggests that optimism is an important personal resource that a person can draw on at stressful times (Khoo & Bishop, 1996). Optimistic individuals who remain positive in face of stressful events tend to enjoy better mental and physical health than their counterparts who are less optimistic. As previous research on optimism has primarily focused on studying stress in specific contexts, such as individuals suffering from chronic illnesses, encountering medical stressors, or under academic stress (Aspinwall & Taylor, 1992; Scheier & Carver, 1992; Scheier et al., 1994), replication of the findings among adults in Hong Kong would give additional support to the predictive utility of optimism in relation to daily hassles. Given the reported “fair” or “poor” health status among people in Hong Kong (Department of Health [DoH], 2006), it would be valuable to examine if optimism could help to buffer the adverse effects of daily hassles on health in the local context.
Moreover, most of the previous studies on stress have focused primarily on the association between optimism and psychological health with relatively fewer of them examining the relation between optimism and physical health (Anderson, 1996). Empirical research on the extent that optimism may moderate the relation between stress and health is also relatively scarce. A more comprehensive picture could also be obtained if both the direct and moderating roles of optimism on both mental and physical health were being studied simultaneously.

The present study was designed to examine the relations between daily hassles, dispositional optimism, mental distress and physical health, as well as the moderating effect of optimism on the relation between hassles and mental and physical health among Chinese adults in Hong Kong. Based on previous research, it was hypothesized that 1) hassles would be positively related to mental distress and negatively correlated with physical health; 2) optimism would be negatively related to mental distress and positively correlated with physical health; and 3) optimism would moderate the effects of daily hassles on mental and physical health.

Method

Participants

A convenient sample of 188 Chinese adults in Hong Kong, including 64 men (34%) and 124 women (66%) with a mean age of 36 yrs ($SD = 7.72$; ranged from 20 to 63 yrs) participated voluntarily in this study. Participants were fairly well educated with 17% reported secondary or matriculated education, 4.8% with certificate or associate degree qualifications, 1.6% with diploma, and 68.6% received college education or above. Majority (92.6%) of the participants were in full-time employment with the rest in part-time employment (2.7%), being unemployed
(1.6%), housewives (1.1%) or retriied (2.1%). 86 of the participants (45.7%) were married, 95 (50.5%) were single, 4 (2.1%) were divorced, and 3 (1.6%) did not disclose their marital status. Among participants who were married or divorced, 77.7% had no children and 22.3% had one to five children.

Procedures

Participants were invited to complete a self-administered questionnaire which included the translated Chinese versions of the Survey of Recent Life Experiences (SRLE; Kohn & Macdonald, 1992), Revised Life Orientation Test (CRLOT; Lai, 2003), General Health Questionnaire-12 (GHQ-12; Goldberg, 1972), and Physical Health Questionnaire (PHQ; Schat, Kelloway, & Desmarais, 2005) using the printed or the on-line version of the questionnaire. Clear instructions were given on the questionnaires and informed consent was sought. Participants were assured that the information they provided would be kept strictly confidential and used for research purposes only.

Measures

Daily hassles. This was assessed by the short form (41 items) of the Survey of Recent Life Experiences (SRLE; Kohn & Macdonald, 1992) specially designed to measure hassles for the general adult population. SRLE is more appropriate than the commonly used Hassles Scale (Kanner et al., 1981) as it is relatively free of contamination by negative well-being or subjective distress. The items (e.g. “Too many things to do at once”) were translated from the English into Chinese using a back-translation procedure. To complete the measure, participants were asked to indicate the extent of their experiences with each of the item over the past month on a 4-point scale (1 = not at all part of my life; 4 = very much part of my life). Higher SRLE scores generally suggest more hassles. In a Canadian sample of 136 adults, Kohn &
Macdonald (1992) reported that factor analysis yielded six moderately correlated SRLE factors, including social and cultural difficulties, work, time pressure, finances, social acceptability, and social victimization; and the Cronbach alphas of these subscales were .78, .82, .81, .76, .68 and .76 respectively.

**Dispositional optimism.** This was assessed by the Chinese Revised Life Orientation Test (CRLOT), an adapted version (Lai, Cheung, Lee & Yu, 1998) from the original English version of revised Life Orientation Test (Scheier et al., 1994), which was further revised by Lai (2003) for higher internal consistency. The scale consists of three positively worded items (e.g. ‘I am always optimistic about my future’) and three negatively worded items (e.g. ‘I hardly expect things to go my way’). Respondents were asked to indicate on a 5-point scale (1 = strongly disagree; 5 = strongly agree) the extent to which they disagreed or agreed with each of the six items. An optimism score was computed by adding the ratings of the positively worded items and the reversed ratings of the negative items. Higher scores on the CRLOT indicate higher levels of optimism. This further revised version of CRLOT has been validated in a study of Chinese patients diagnosed with coronary heart disease (Chan, Lai & Wong, 2006; $\alpha = .73$).

**Mental distress.** This was measured by a Chinese version of the 12-item General Health Questionnaire. The General Health Questionnaire (Goldberg, 1972) has different versions which differ in length. The General Health Questionnaire-12 (GHQ-12) is the shortest version, and has been used widely as a screening instrument for tapping minor psychiatric disturbances in community settings. To complete the scale, respondents indicated on a 4-point scale whether they have experienced each of the 12 symptoms as described in the 6 positive items (e.g. “Have you recently been able to face up to problems?”, 1 = more so than usual; 4 = much less than usual) and 6 negative
items (e.g. ‘Have you recently been feeling unhappy or depressed?’, 1= not at all; 4 = much more than usual) in the preceding month.

A global distress score was computed by adding the ratings on the 12 items. Higher GHQ scores generally indicate higher levels of psychological distress. The scale exhibited decent internal consistency in prior studies with western samples (Goldberg et al., 1997; Mäkikangas & Kinnunen, 2003; Mäkikangas, Kinnunen, & Feldt, 2004) with $\alpha$ ranging from .87 to .92. The Chinese version of the GHQ-12 used in the present study had been translated by Lai and Yue (2000) and was subsequently validated among different populations of Hong Kong Chinese ($\alpha = .85$: Lai and Yue, 2000; $\alpha$ ranged from .80 to .85: Lai and Chan, 2002).

Physical health. This was assessed by the Chinese version of the Physical Health Questionnaire (PHQ; Schat et al., 2005) which were translated from the English version using a back-translation procedure. The scale consists of 14 items (e.g. “How often have you experienced headaches?”) measuring four distinct dimensions of somatic symptoms, including sleep disturbances, headaches, gastrointestinal problems, and respiratory illness. Respondents were asked to rate the frequency they experienced the symptoms on 7-point frequency scale ranging from 1 (not at all) to 7 (all of the time) in the past month. Except for item 4 (“How often you’re your sleep been peaceful and undisturbed?”) whose endorsement indicates the absence of symptoms, scores for all the other 13 items whose endorsement signifies the presence of symptoms were reversed to arrive at a PHQ score. Higher scores generally reflect better physical health. Previous research has demonstrated acceptable internal consistency of the PHQ ($\alpha = .79$) as well as its four subscales ($\alpha$ ranged from .70 to .90: Schat et al., 2005).

Statistical Analyses
In view of the relatively small sample size used in the study on SRLE by Kohn and MacDonald (1992), and possible influences of culture on perceptions of hassles (Lavee & Ben-Ari, 2008), it was expected that the original 6-factor solution may not be replicated in the local context. Thus, principal axis factoring, followed by direct Oblimin rotation, was used to extract the SRLE factors based on responses from the current sample. Items with loading of less than 0.4 were discarded in subsequent analyses.

Correlation analyses were conducted to examine the relations between optimism, hassles, mental distress and physical health. Multiple regression analyses with forced entry were used to assess the unique effects of gender, age, hassles (SRLE factors) and optimism, as well as the interaction of hassles and optimism in the prediction of mental distress and physical health. Gender and age were first entered into the regression equation as control variables. To assess the main and interaction effects as well as to control for multicollinearity as a result of the moderator interaction (Aiken & West, 1991), standard (Z) scores for hassles were entered in the second step, to be followed by the Z scores for optimism in the third step. Finally, to examine the possibility of a significant moderating effect, the interaction term which consisted of the cross-product of the Z scores of hassles and optimism were entered in the fourth and final step.

Conceptually, a moderator is a variable that interacts with a causal agent and alters the direction or strength of the relation between an independent variable and a dependent variable. Moderator effect is present when the interaction term between the predictor and the moderator is found to be significant (Baron & Kenny, 1986; Jaccard & Turrisi, 2003). If optimism moderated the effect of hassles on health, a significant interaction between hassles and optimism should be observed, implying that the nature
of relationship between hassles and GHQ; and between hassles and PHQ would vary with respect to specific values of optimism.

Results

SRLE Factors

A 3-factor solution which accounted for 35.57% of the total variance was extracted from the 41 SRLE items. The loadings of the three factors namely, Social and Financial hassles, Time pressure, and Work hassles were presented in Table 1. Out of the 41 SRLE items, 9 were discarded from subsequent analyses as the factor loadings were lower than .40. The correlations between the 3 SRLE factors were low to moderate (r ranged from .27 to .40).

Descriptive Statistics

The means, standard deviations and Cronbach alphas of the major variables are displayed in Table 2. The mean SRLE score of the present sample was 55.09 (SD = 10.42) and a significant gender difference (t\textsubscript{186} = 2.53, p < .05) was observed. The mean SRLE score of men (M = 57.72, SD = 10.39) was higher than that of women (M = 53.73, SD = 10.21). Analyses of the individual SRLE factors showed that men had significantly higher social and financial hassles (t\textsubscript{186} = 2.00, p < .05), as well as work hassles (t\textsubscript{186} = 3.60, p < .01) when compared to women. There was no significant gender difference in time pressure (t\textsubscript{186} = .39, p > .05). The internal reliabilities of SRLE (α = .90) and the 3 factors (α ranged from .82 to .89) were high.

The mean optimism score was 20.31 (SD = 3.55). Although the mean optimum score for men was lower (M = 19.67, SD = 3.52) than that of women (M = 20.65, SD = 3.53), the difference was not significant (t\textsubscript{186} = -1.79, p > .05). The Cronbach alpha of the scale in this study was .75.
The mean GHQ and PHQ scores were 22.30 (SD = 4.30) and 75.42 (SD = 8.50) respectively. The difference in GHQ scores between men (M = 22.30, SD = 4.40) and women (M = 22.20, SD = 4.26) did not reach statistical significance (t_{186} = .16, p > .05). Although men had higher PHQ scores (M = 76.66, SD = 9.60) than women (M = 74.78, SD = 7.84), the difference was not significant (t_{186} = 1.44, p > .05). Among the four PHQ dimensions, women reported significantly more headaches than men (t_{186} = 3.06, p < .05). The internal reliabilities of GHQ and PHQ in this study were .83 and .79 respectively. The Cronbach alphas for the PHQ subscales were .69 for sleep disturbances, .82 for headaches, .58 for gastrointestinal problems, and .77 for respiratory illness.

Correlations among Hassles, Optimism, Mental Distress and Physical Health

Correlations between the major variables are presented in Table 2. Age correlated negatively with SRLE, social and financial hassles, time pressure, work hassles, optimism and GHQ but positively with PHQ. Younger adults had higher hassles and mental distress than older adults. Older participant reported better physical health. As expected, SRLE correlated positively with GHQ and negatively with PHQ. Social and financial hassles, and work hassles also correlated with mental distress and physical health in the same manner. Adults who experienced more hassles reported higher mental distress and lower physical health than those with less hassles. Time pressure also correlated inversely with PHQ but its positive correlation with GHQ was not significant. Thus, hypothesis 1 predicting that hassles would be positively related to mental distress and negatively correlated with physical health was supported.

In contrast, higher levels of optimism were associated with lower GHQ scores and higher PHQ scores. More optimistic participants exhibited less mental
distress but better physical health than their peers who were less optimistic. Thus, hypothesis 2 predicting that optimism would be negatively related to mental distress and positively correlated with physical health was supported.

**SRLE and Optimism as Predictors of Mental Distress**

Results of the multiple regression analyses using centered predictors (Aiken & West, 1991) in the prediction of GHQ is presented in Table 3. Two demographic factors, gender and age, were first entered into the predictive equation, followed by social and financial hassles, time pressure and work hassles. CRLOT was then entered in the third step. Lastly, the three interaction terms (social and financial hassles x optimism; time pressure x optimism; and work hassles x optimism) were then entered.

Findings show that gender and age did not have significant effect on GHQ. Among the three SRLE factors, work hassles uniquely predicted mental distress. Optimism also reliably predicted GHQ. These results lend further support to hypotheses 1 and 2. Moreover, the interaction between work hassles and optimism was a reliable predictor of GHQ, indicating that the nature of the relationship between work stress and mental distress depended on the optimism scores. The prediction of GHQ was enhanced ($\Delta R^2=1\%$) with the addition of the interaction term which explained a unique portion of variance in mental distress. The total variance explained was significant ($R^2 = .23; F_{(9,178)} = 7.22, p < .001$).

To examine further the nature of the interaction effect, the regression of mental distress on work hassles was plotted (see Figure 1) in accordance with the procedures proposed by Aiken and West (1991). Simple slope was used for the regression of mental distress on work stress using the high (one standard deviation
above the mean) and low (one standard deviation below the mean) values for optimism. Figure 1 shows that less optimistic adults had higher mental distress than optimistic adults at low levels of work hassles. While more optimistic individuals reported more distress in response to the increase in work hassles, less optimistic individuals exhibited a high level of distress at different levels of work hassles. These findings indicated that optimism moderated the adverse effect of work stress on mental health when work hassles were low.

**SRLE and Optimism as Predictors of Physical Health**

To assess the role of the SRLE factors and optimism in the prediction of physical health, centered predictors were also used (Aiken & West, 1991). As presented in Table 4, gender and age had significant effects on physical health. Men reported better physical health then women, and older adults had higher PHQ scores than younger adults. Time pressure did not have significant effect on physical health, and the significance level of work hassles \( p = .07 \) was slightly larger than .05 thus making this factor not a significant predictor of physical health. On the other hand, social and financial hassles significantly predicted physical health, and optimism was also a unique and reliable predictor of PHQ. These findings lend further support to hypotheses 1 and 2. The prediction of physical health was also enhanced with the addition of the interaction term of work hassles x optimism \( (\Delta R^2 = 2\%) \), indicating that the nature of the relationship between work hassles and physical health varied as a function of the optimism scores. The total variance explained was significant \( (R^2 = .29; F_{(9,178)} = 9.42, p < .001) \)

To examine further the nature of the interaction effect, the regression of physical health on work hassles at low and high levels of optimism was plotted using similar procedures for mental distress. Figure 2 reveals that the optimistic adults
experienced a slight decrease in physical health as work hassles increased but a significant deterioration in physical health was observed among less optimistic adults. These findings suggested that more optimistic individuals were more resistant to deterioration in physical health than their less optimistic peers when work hassles increased.

A review of the multiple regression analyses showed that although the interaction between social and financial hassles and optimism, and the interaction between time pressure and optimism were not significant, the interaction between work hassles and optimism significantly predicted mental distress and physical health. Thus, hypothesis 3 predicting that optimism would moderate the effects of hassles on mental and physical health was partially supported.

Discussion

Summary of Findings

The present study aimed to examine the relations between daily hassles, dispositional optimism, mental distress and physical health, as well as the moderating effect of optimism on the relations between hassles and health among Chinese adults in Hong Kong. Results from the factor analysis showed that three SRLE factors, namely Social and Financial Hassles, Time Pressure and Work Hassles, were extracted from the responses of the current sample. As hypothesized, SRLE was positively related to mental distress but negatively related to physical health. The three SRLE factors also associated with mental distress and physical health in the same manner. Adults who experienced more hassles reported more mental distress and lower physical health. In contrast, optimism correlated negatively with mental distress but positively with physical health. Individuals with higher optimism had lower mental distress and better physical health. Thus, hypotheses 1 and 2 were
supported. Moreover, multiple regression analyses showed that the interaction of work hassles and optimism significantly predicted GHQ as well as PHQ. As shown in Figure 1, optimism moderated the adverse effect of work hassles on mental distress at low levels of work hassles. Optimism also buffered the detrimental effect of work hassles on physical health when work hassles were high (Figure 2). However, the interactions of social and financial hassles and optimism, as well as time pressure and optimism were not significant. Thus, hypothesis 3 predicting the moderating effect of optimism on mental distress and physical health was partially supported.

**Demographic Factors**

Gender and age emerged to be significant predictors of physical health but not mental health. Men reported better physical health than women who experienced more headaches which converges with the results of earlier studies showing the tendency for women to report more physical symptoms than men (Lai et al., 1996; Mäkikangas & Kinnunen, 2003; Nelson & Karr, 1995). Moreover, older adults reported better physical health than younger adults who suffered from more headaches. This result are consistent with the findings by Kenney (2000) which showed that older women experienced fewer stressors and less physical symptoms than middle-age and young women who had to juggle the multiple responsibilities and demands of their spouse, children, aging parents, and their occupations.

**3-factor Solution for the SRLE**

The 6 SRLE factors reported by Kohn and Macdonald (1992) have not been completely replicated in this study. Results of the factor analysis using the current sample supported a 3-factor solution, including Social and Financial Hassles, Time Pressure, and Work Hassles. This difference in factor extraction may be attributed to the relatively small sample size in the study conducted by Kohn and Macdonald
(1992), as well as the impact of culture on individuals having collectivist vs. individualist cultural orientations. In light that the 6-factor solution proposed by Kohn and Macdonald was based on a Canadian sample while the 3-factor solution of the current study was based on a Chinese sample, it is likely that the difference in cultural orientations of these two samples may have affected their perceptions of hassles, and hence structure of the SRLE factors.

As shown in the factor loadings, items on the original subscales of social acceptability, social and cultural difficulties, and finances loaded onto the same factor. A review of the items indicated that this newly named factor, Social and Financial hassles, tend to focus on hassles related to families and friends who exert significant influences on individuals in collectivist societies (Lavee & Ben-Ari, 2008). The significant correlations among the items also provided support to the interconnection of these three types of hassles in the local context. For instance, the item on “Conflicts with family members” was significantly associated with “Financial conflicts with family members”; whereas “Conflicts with friends” was also significantly related to “Social isolation”. The factor also included an item from the original subscale of social victimization (“Getting ripped off or cheated in the purchase of goods”) and another item from time pressure (“Hard work to look after and maintain home”). As being cheated in purchases generally occurs in social settings, and participants may have focused on the financial resources required to maintain their families when reviewing the item on time pressure, it is reasonable that these two items loaded onto social and financial hassles.

Two other factors from the original SRLE scale, including time pressure and work hassles were replicated in this study but with some minor changes. Included in the factor on time pressure was one item from the original finances subscale
(“Financial burden”) and another item from social victimization subscale (“Being taken for granted”). Although it is unexpected that the item “Financial burden” loaded onto time pressure, the factor loading of this item was not particularly high (.40). As for the other item on social victimization, it is likely that participants may have considered the item in the light of the overtime work required by their supervisors at the workplace and hence the loading of this item on time pressure.

The factor on work hassles covered mainly items describing dislike and dissatisfaction in the work settings. An item on the original subscale of social victimization (“Having your contributions overlooked”) was found to load onto this factor. As suggested by earlier studies, social victimization may originate from the workplace or the social environments (Einarsen, Raknes & Matthiesen, 1994; Hauge, Skogstad, & Einarsen, 2007). Given that majority of the participants in this study were in full-time employment, there are high chances that they related this item to work-related settings instead of social settings, and hence loading of this item onto work hassles.

**Negative Effects of Daily Hassles on Health**

Consistent with previous studies, daily hassles are detrimental to mental as well as physical health (Almeida, 2005; Banez & Compas, 1990; Lai, 1995). Among the three SRLE factors, work hassles uniquely predicted mental distress in this study. Adults who experienced more work hassles had higher mental distress than their peers who reported less work hassles. Although work hassles did not predict reliably and uniquely physical health, its negative association with physical health was significant. These results converge with the findings by Evans and Steptoe (2002) which have shown that work hassles are related to anxiety as well as absence due to sickness. Given that majority of the
participants in this study were working adults, it is logical that they reported more work-related hassles.

Unexpectedly, the positive correlation of time pressure and mental distress in this study was not significant although time pressure has been found previously to be associated with higher psychological distress (Roxburgh, 2004). On the other hand, higher time pressure was associated with lower physical health. This finding converges with results of the survey on the state of work-life balance in Hong Kong (Community Business Limited, 2007) revealing the health implications of poor work-life balance, and that decline in health was manifested in terms of prolonged fatigue and extreme tiredness. The adverse effect of time pressure on physical health was replicated in this study. Given that work and family may interfere with one another in form of time-based conflict (Adams & Jex, 1999; Perrewé, Ralston, & Fernandez, 1995) in collectivist culture, modifications to the SRLE items on time pressure in this direction may help to better capture the effects of time pressure on health among adults in Hong Kong.

Social and financial hassles also uniquely predicted lower physical health in this study. Participants who experienced higher hassles in this factor had lower physical health than their counterparts who experienced lower social and financial hassles. This factor also correlated positively with GHQ, indicating that adults with more social and financial hassles had higher mental distress. The adverse effects of social and financial hassles have been reported in earlier empirical research suggesting that interpersonal hassles have negative impact on both mental health and somatic outcomes (Bolger & DeLongis, 1989; Treharne, Lyons, & Tupling, 2001). A lack of social support and dissatisfaction with social relations are predictive of poor health (Melchior, Berkman, Niedhammer, Chea, & Goldberg,
2003), and socially isolated adults tend to exhibit slower wound healing, poorer sleep efficiency and even at higher risk of mortality (Berkman, 1995; Cacioppo & Hawkley, 2003).

In addition to social hassles, financial strain is also related to psychological distress as shown in a cross-cultural analysis among elders (Ferraro & Su, 1999). Added to this finding is the study by Drentea and Lavrakas (2000) which revealed that debt and stress regarding debt were significantly associated with poor physical health. The importance of social and financial hassles revealed in this study is probably related to culture. In collectivist societies like Hong Kong where greater interdependence and harmonious social relationships are often emphasized (Lavee & Ben-Ari, 2008; Siu, 2003), it is not surprising that adults who experience higher social and financial hassles, such as social isolation or financial conflicts with family members, are more susceptible to the adverse effects of these hassles on health. Given the significant impact of social and financial hassles on physical health and that optimism did not moderate the relation between these hassles and physical health, further studies are suggested to assess whether other factors such as social support (Melchior et al., 2003) could help to buffer the adverse effects of social and financial hassles on health among adults in Hong Kong.

Protective Role of Optimism on Health

While hassles are detrimental to mental and physical health, optimism confers benefit on both health outcomes. In this study, adults with higher optimism had lower mental distress and better physical health than their peers who were less optimistic. These findings replicated results of earlier studies which have converged impressively on the protective role of optimism on both psychological and physical health (Khoo & Bishop, 1996; Scheier & Carver, 1992). The respective negative correlations between
optimism and social and financial hassles, and between optimism and work hassles are also consistent with the study by Nelson and Karr (1995) documenting the inverse relation of daily hassles and optimism.

Apart from its main effect, findings also revealed that optimism buffered the adverse effect of work hassles on mental distress and physical health. As suggested by Kohn & Macdonald (1992), the SRLE not only avoids the potential contamination inherent in Kanner and co-workers’ (1981) Hassles Scale, it is also sensitive to the potential interactions between personality factors and stress. Results of the multiple regression analyses indicated that optimism moderated the adverse effects of work hassles on both mental and physical health but in a different manner.

Optimism moderated the effects of work hassles on mental health when work hassles were low. Adults with higher optimism had lower mental distress than their less optimistic counterparts at low levels of work hassles. Unexpectedly, the protective effect of optimism was gradually reduced at high levels of work hassles. The increase in mental distress was more pronounced among adults with higher optimism although the overall level of mental distress was still lower when compared to adults who were low on optimism. This result contradicts with earlier empirical findings (Chang, 1998; Grote et al., 2007; Lai & Wong, 1998) which have revealed that optimism moderated the relation between stress and health at high level of stress. However, the finding parallels the study by Mäkikangas and Kinnunen (2003) demonstrating the protective role of optimism on mental health of employees when job insecurity was low. The aversive effect on mental well-being was more detrimental for optimists in face of high job insecurity, which is based on factors outside personal control.
Optimism also buffered the relation between work hassles and physical health. Consistent with previous research (Lai, 1995), the moderating effect of optimism was observed at high levels of work hassles. When compared with more optimistic adults, those who were less optimistic experienced a more drastic decline in physical health as work hassles increased. In contrast, adults high on optimism only reported a relatively mild decrease in physical health as work hassles increased. It appears that optimists are more resistant to the adverse effect caused by increase in work hassles. The finding that optimism moderated the relation between work hassles and physical health at high levels of work hassles converges with the suggestion that coping, which is defined as efforts to manage demands that are appraised as exceeding the resources of the person, is being initiated under relatively high level of stress (Lazarus & Folkman, 1984; Lai, 1995).

It is interesting to observe that optimism moderated the effect of work hassles on mental distress when work hassles were low, but buffered the effect of work hassles on physical health of adults when work hassles were high. An earlier study on the impact of daily hassles on health (DeLongis et al., 1988) has reported that the relation between hassles and physical health was more prominent while the effect of hassles on mood disturbance was more complex. The negative effect of hassles on mood appears to endure a shorter duration than physical symptoms, and individual differences may also influence responses at the psychological level. In this study, although work hassles were related to both mental distress and physical health, the association was lower for physical health. Results of the multiple regression analyses also revealed that work hassles reliably predicted mental distress but not physical health which was uniquely predicted by social and financial hassles.
One possible explanation for the buffering effect of optimism at low levels of work hassles may be related to the expectations of optimists in handling work hassles. As optimists tend to believe that positive outcomes are attainable, they are more likely to have a high expectation of themselves in handling work hassles and invest greater efforts to achieve their goals. Unlike less optimistic individuals who tend to use emotion-focused coping strategies in face of stressful events, more optimistic individuals are more likely to engage in problem-focused coping (Aspinwall & Taylor, 1992; Mäkikangas & Kinnunen, 2003; Scheier & Carver, 1985; Scheier et al., 1986; Tuten & Neidermeyer, 2004). However, the increased engagement may occur at the expense of mental health when they realize that the prolonged work hassles turns out to be uncontrollable and persistently high that goes beyond their ability to cope (Hirsch, Wolford, LaLonde, Brunk, Morris, 2007; Siu, 2003; Mäkikangas & Kinnunen, 2003). As suggested by Adams and Jex (1999), perceived control is significantly related to both health and job satisfaction. It is thus possible that high expectation, persistence of hassles coupled with low degree of control may explain for the rise in mental distress among optimists as work hassles increase.

On the other hand, work hassles exerted a relatively lower impact on physical health in this study. More optimistic adults experienced a much lower decline in physical health as work hassles increased. As pointed out by Scheier and Carver (1992), optimists are active and problem-focused copers who are less likely to engage in avoidant coping which is linked directly and inversely to physical health. Given that similar beneficial influence of optimism on mental distress has not been observed at high levels of hassles in this survey, further studies are warranted to assess whether simultaneous use of both emotion-focused and problem-focused
strategies may help to reduce distress when coping with high and uncontrollable levels of work hassles in the local context.

Moreover, optimistic beliefs also predict attention to health threats (Aspinwall, 1996). Optimists are more likely to engage in positive health habits within specific health contexts (Scheier & Carver, 1992). They tend to engage more actively in health habits that may promote health, such as exercise, or appropriate use of health-protective services, as well as making more specific attempts to prevent illness (Hamid, 1990; Taylor et al., 2000). Mulkana and Hailey (2001) provided further evidence on the positive correlation of optimism and health-enhancing behaviors as a general practice as well. The local survey on behavioral risk factors (DoH, 2006) also revealed that when coping with stress, people in Hong Kong are more likely to participate in leisure activities, regular exercises, and seek more rest, which may have more direct and positive impact on physical health. Thus, the relative importance of work hassles on mental distress in comparison with physical health, and the use of health-enhancing behaviors may help to explain the different moderating effects of optimism on the mental distress and physical health in this study.

**Implications of Findings**

The findings of the present study have several implications. The SRLE with its 6-factor solution has previously been used to assess hassles among Canadian adults (Kohn & Macdonald, 1992). The 3-factor solution found in this study not only extends the literature by demonstrating the reliability of SRLE in an Asian context, the difference in the factor structure between the Canadian sample (Kohn & Macdonald, 1992) and the current Chinese sample also highlights the potential role that culture plays in appraisal of hassles. Thus, emic elements should be considered when using hassles scales developed for western samples in other cultural contexts.
Moreover, past research has converged impressively on the positive benefits of optimism among highly stressed individuals suffering from serious illness (Chan et al., 2006; Scheier & Carver, 1992) or college students under academic stress (Aspinwall & Taylor, 1992; Lai, 1995, 1997) in both Western and Asian contexts. This study provides further evidence that the stress-buffering role of optimism (Bosompra, Ashikaga, Worden, & Flynn, 2000-2001; Scheier & Carver, 1985) can be extended to healthy Chinese adults in managing daily hassles as well. Realizing the buffering role of optimism, individuals could learn to make use of this valuable internal psychological resource to alleviate the adverse impact of daily hassles on both mental and physical health which is especially important in light of the “fair to poor” health status reported by people in Hong Kong (DoH, 2006).

Optimism could also be a valuable resource in assisting adults to migrate smoothly into different stages of adulthood. With a positive orientation to life, younger adults could reinterpret daily hassles in a more favorable light and hence less threatening as they migrate into middle adulthood when major life events such as career choice, marriage and parenthood may also take place. Although deterioration in health associated with primary aging is inevitable, older adults by retaining their optimistic outlook and hopeful selves are more likely to manage midlife stress readily, and lead a healthy life to stave off the secondary effects of aging (Bosompra et al., 2000-2001; Bromberger & Matthews, 1996; Leung, Moneta, & McBridge-Chang, 2005; Papalia, Olds, & Feldman, 2004). Future research in these directions is warranted to uncover more fully the protective role of optimism.

Most of the past research has primarily focused on the influence of optimism on psychological health. By considering mental distress and physical health simultaneously in this study, the differential roles that optimism plays in
buffering individuals against the adverse effect of work hassles on mental health, and physical health have been identified. As work hassles could lead to increase in health costs, higher rates of turnover and lower performance, it would be useful for companies to design training programs that promote optimistic thinking at the workplace and modify work environments where hassles were very high in order to reduce mental distress at work (Siu, 2003). These suggestions are not only beneficial for employees’ health but also help to reduce the loss of work days associated with illness and increase work performance.

Apart from optimism, previous studies have shown that other personality dimensions like self-esteem (Delongis et al., 1988; Mäkikangas et al., 2004) and hardiness (Kobasa, 1979; Siu & Cooper, 1998), as well as contextual variables such as social support from friends and families (Brissette et al., 2002; Khetarpal & Kochar, 2006; Nelson & Karr, 1995) may also moderate the impact of stress on health (Ogden, 2007). Further studies on these potential stress moderators together with optimism could provide a better understanding on the roles that these moderators play in alleviating the detrimental effects of daily hassles on health in the local context.

**Limitations and Conclusion**

As the present study uses a convenient sample, it remains to be seen whether the findings can be generalized to a more representative sample. Reliance on retrospective self-reports may also result in over- or under-reporting of daily hassles and health status. Prospective studies should use a more random and diverse sample to enhance the generalization of the results, and include more objective measures such as recorded sick days and actual usage of health services in the assessment of health.

This study is also limited by its cross-sectional design. Although the findings provided support on the beneficial role of optimism in moderating the adverse effects
of work stress on mental health and physical health, causal inferences cannot be
drawn given the cross-sectional nature of this study. Future studies that assess the
present measures at multiple points in time could help to clarify the causal relations.

In sum, this study showed that three SRLE factors, including Social and
Financial Hassles, Time Pressure and Work hassles, were extracted from the current
sample. While daily hassles are detrimental to health, optimism confers benefits on
health. Findings revealed that more daily hassles were associated with higher mental
distress and lower physical health. In contrast, optimism was negatively related to
mental distress but positively with physical health. The study also demonstrated that
optimism moderated the adverse effects of work hassles on mental distress at low
levels of work hassles, and buffered the detrimental impact of work hassles on
physical health at high levels of work hassles among Chinese adults in Hong Kong.
Further studies on optimism together with other stress moderators, promotion of
optimistic thinking at the workplace, and the use of optimism as a stress-resistant
resource to assist adults migrate smoothly into different stages of adulthood are
recommended.
References


Evans, O., & Steptoe, A. (2002). The contribution of gender-role orientation, work factors and home stressors to psychological well-being and sickness absence in a
male- and female-dominated occupational groups. *Social Science & Medicine, 54*, 481-492.


Table 1  
*Factor pattern loadings for the SRLE.*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Item</th>
<th>Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor 1: Social and financial hassles</strong></td>
<td>Social isolation</td>
<td>.77</td>
</tr>
<tr>
<td></td>
<td>Conflicts with friend(s)</td>
<td>.69</td>
</tr>
<tr>
<td></td>
<td>Try to secure loan(s)</td>
<td>.67</td>
</tr>
<tr>
<td></td>
<td>Being ignored</td>
<td>.66</td>
</tr>
<tr>
<td></td>
<td>Financial conflicts with family members</td>
<td>.63</td>
</tr>
<tr>
<td></td>
<td>Having your trust betrayed by a friend</td>
<td>.63</td>
</tr>
<tr>
<td></td>
<td>Social rejection</td>
<td>.60</td>
</tr>
<tr>
<td></td>
<td>Conflicts with family member(s)</td>
<td>.58</td>
</tr>
<tr>
<td></td>
<td>Gossip about yourself</td>
<td>.58</td>
</tr>
<tr>
<td></td>
<td>Getting “ripped off” or cheated in the purchase of goods</td>
<td>.57</td>
</tr>
<tr>
<td></td>
<td>Cash-flow difficulties</td>
<td>.49</td>
</tr>
<tr>
<td></td>
<td>Gossip about someone you care about</td>
<td>.49</td>
</tr>
<tr>
<td></td>
<td>Dissatisfaction with your physical appearance</td>
<td>.47</td>
</tr>
<tr>
<td></td>
<td>Hard work to look after and maintain home</td>
<td>.44</td>
</tr>
<tr>
<td></td>
<td>Unsatisfactory housing conditions</td>
<td>.43</td>
</tr>
<tr>
<td></td>
<td>Ethnic or racial conflict</td>
<td>.43</td>
</tr>
<tr>
<td></td>
<td>Being let down or disappointed by friends</td>
<td>.41</td>
</tr>
<tr>
<td>Cronbach’s alpha</td>
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<td>.89</td>
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<tr>
<td><strong>Factor 2: Time pressure</strong></td>
<td>Too many things to do at once</td>
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</tr>
<tr>
<td></td>
<td>A lot of responsibilities</td>
<td>.67</td>
</tr>
<tr>
<td></td>
<td>Not enough leisure time</td>
<td>.66</td>
</tr>
<tr>
<td></td>
<td>Not enough time to meet your obligations</td>
<td>.63</td>
</tr>
<tr>
<td></td>
<td>Struggling to meet your own standards of performance and accomplishment</td>
<td>.52</td>
</tr>
<tr>
<td></td>
<td>Being taken for granted</td>
<td>.48</td>
</tr>
<tr>
<td></td>
<td>Financial burdens</td>
<td>.40</td>
</tr>
<tr>
<td>Cronbach’s alpha</td>
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<td>.82</td>
</tr>
<tr>
<td><strong>Factor 3: Work hassles</strong></td>
<td>Dissatisfaction with work</td>
<td>.85</td>
</tr>
<tr>
<td></td>
<td>Disliking your work</td>
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</tr>
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<td></td>
<td>Finding work uninteresting</td>
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</tr>
<tr>
<td></td>
<td>Lower evaluation of your work than you think you deserve</td>
<td>.57</td>
</tr>
<tr>
<td></td>
<td>Lower evaluation of your work than you hoped for</td>
<td>.47</td>
</tr>
<tr>
<td></td>
<td>Disliking your daily activities</td>
<td>.45</td>
</tr>
<tr>
<td></td>
<td>Having your contributions overlooked</td>
<td>.42</td>
</tr>
<tr>
<td></td>
<td>Conflict with supervisor(s) at work</td>
<td>.41</td>
</tr>
<tr>
<td>Cronbach’s alpha</td>
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<td>.84</td>
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Table 2
Means, standard deviations, Cronbach alphas, and correlations among major variables.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Cronbach’s α</th>
<th>Gender</th>
<th>Age</th>
<th>SRLE</th>
<th>Social</th>
<th>Time</th>
<th>Work</th>
<th>CRLOT</th>
<th>GHQ-12</th>
<th>PHQ</th>
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<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Age</td>
<td>35.94</td>
<td>7.72</td>
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<td></td>
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<tr>
<td>SRLE</td>
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<td>10.42</td>
<td>.90</td>
<td>-.18*</td>
<td>-.12</td>
<td></td>
<td></td>
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<tr>
<td>1. Social</td>
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<td>.89</td>
<td>-.15*</td>
<td>-.13</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2. Time</td>
<td>15.82</td>
<td>3.78</td>
<td>.82</td>
<td>-.03</td>
<td>-.08</td>
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<td></td>
<td></td>
<td></td>
<td>.33***</td>
<td></td>
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<td>3. Work</td>
<td>14.82</td>
<td>3.64</td>
<td>.84</td>
<td>-.26***</td>
<td>-.04</td>
<td></td>
<td>.48***</td>
<td>.37***</td>
<td></td>
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<tr>
<td>CRLOT</td>
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<td>3.55</td>
<td>.75</td>
<td>.13</td>
<td>-.04</td>
<td>-.25***</td>
<td>-.26***</td>
<td>.03</td>
<td>-.34***</td>
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<td></td>
</tr>
<tr>
<td>GHQ-12</td>
<td>22.30</td>
<td>4.30</td>
<td>.83</td>
<td>-.01</td>
<td>-.09</td>
<td>.37***</td>
<td>.30***</td>
<td>.12</td>
<td>.43***</td>
<td>-.32***</td>
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<tr>
<td>PHQ</td>
<td>75.42</td>
<td>8.50</td>
<td>.79</td>
<td>-.11</td>
<td>.21**</td>
<td>-.44***</td>
<td>-.41***</td>
<td>-.23**</td>
<td>-.35***</td>
<td>.30***</td>
<td>-.29***</td>
<td></td>
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</tbody>
</table>

N= 188. Gender: = Gender; Age = Age; SRLE = Survey of Recent Life Experiences; Social = Social and financial hassles; Time = Time pressure; Work = Work hassles; CRLOT = Chinese Revised Life Orientation Test; GHQ-12 = General Health Questionnaire-12; PHQ = Physical Health Questionnaire
* p < .05, ** p < .01, *** p < .001.
Table 3

Multiple regression analyses predicting GHQ-12.

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
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<tr>
<td></td>
<td>Beta</td>
<td>t</td>
<td>Beta</td>
<td>t</td>
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<tr>
<td>1. Gender</td>
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<td>.31</td>
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<td>-1.58</td>
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<tr>
<td>2. Age</td>
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<td>-1.26</td>
<td>-.05</td>
<td>-.72</td>
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<tr>
<td>3. Social</td>
<td>.14</td>
<td>1.76</td>
<td>.10</td>
<td>1.35</td>
</tr>
<tr>
<td>4. Time</td>
<td>-.09</td>
<td>-1.18</td>
<td>-.05</td>
<td>-.66</td>
</tr>
<tr>
<td>5. Work</td>
<td>.42</td>
<td>5.33***</td>
<td>.36</td>
<td>4.44***</td>
</tr>
<tr>
<td>6. CRLOT</td>
<td></td>
<td></td>
<td>-.19</td>
<td>-2.63**</td>
</tr>
<tr>
<td>7. Social x CRLOT</td>
<td></td>
<td></td>
<td>-.06</td>
<td>-.75</td>
</tr>
<tr>
<td>8. Time x CRLOT</td>
<td></td>
<td></td>
<td>-.04</td>
<td>-.61</td>
</tr>
<tr>
<td>9. Work x CRLOT</td>
<td></td>
<td></td>
<td>.17</td>
<td>2.29*</td>
</tr>
</tbody>
</table>

\[ R^2 \]  
- .002  .19***  22***  .23***

N = 188. GHQ-12 = General Health Questionnaire-12; Gender = Gender; Age = Age; Social = Social and Financial hassles; Time = Time pressure; Work = Work hassles; CRLOT = Chinese Revised Life Orientation Test; Social x CRLOT = Social and financial hassles x Chinese Revised Life Orientation Test; Time x CRLOT = Time x Chinese Revised Life Orientation Test; Work x CRLOT = Work hassles x Chinese Revised Life Orientation Test

* p < .05, ** p < .01, *** p < .001.
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$R^2$ .04**   .24***  .27***  .29***

N = 188. PHQ = Physical Health Questionnaire; Gender = Gender; Age = Age; Social = Social and financial hassles; Time = Time pressure; Work = Work hassles; CRLOT = Chinese Revised Life Orientation Test; Social x CRLOT = Social and financial hassles x Chinese Revised Life Orientation Test; Time x CRLOT = Time x Chinese Revised Life Orientation Test; Work x CRLOT = Work hassles x Chinese Revised Life Orientation Test
* p < .05, ** p < .01, *** p < .001.
Figure 1. Regression lines predicting GHQ-12 from Work hassles and CRLOT (— High optimism ----- Low optimism).

GHQ-12 = General Health Questionnaire-12; CRLOT = Chinese Revised Life Orientation Test
Figure 2. Regression lines predicting PHQ from Work hassles and CRLOT (--- High optimism ----- Low optimism).

PHQ = Physical Health Questionnaire; CRLOT = Chinese Revised Life Orientation Test