

Moderating Effect of Mindfulness on Daily Hassles-Stress Relationship

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This study examined the association of mindfulness (as a trait subject to individual difference) to stress and its role in moderating the daily hassles-stress relationship with Chinese university students. Respondents high in trait mindfulness reported lower levels of stress. A moderating effect of trait mindfulness on the daily hassles-stress relationship was found. Specifically, the direct association between daily hassles and stress was weakened at a heightened level of trait mindfulness. It provides empirical support for advocating the use of mindfulness training in buffering and redirecting negative emotion of Chinese university students in stress management. As Chinese university students are a large population of students in the world, integrating mindfulness-based training into the campus life of this group of students could bring benefits to their mental health.

Keywords: mindfulness; stress; daily hassles; Chinese university students

Previous studies on mindfulness have focused on its applications in clinical settings (such as mindfulness-based intervention in stress reduction) rather than the construct of mindfulness per se. In recent research, there has been a view that mindfulness can be conceptualized as a trait that is subject to individual differences (Brown & Ryan, 2003). Anchored on this conceptualization, research has been done to explain why mindfulness training is effective in clinical settings for stress reduction. A review of the extant literature suggests that most of the published studies in this area included participants mainly from Western cultures. It seems that people from non-Western cultures, such as the Chinese, have been underrepresented in this area of research. As there is a close fit between the ideology of mindfulness practice and the cultural orientation of Chinese people, it is meaningful to have more studies investigating the role of mindfulness in the well-being of Chinese population.

The Construct of Mindfulness and Its Role in Stress Management

Mindfulness is a concept that relates to Zen. “Mindfulness meditation” is a common term that can be found in the extant literature. It has a general referral to the “2,500-year-old Eastern practice of meditation known as Vipassana, or insight meditation” (Palmer & Rodger, 2009, p. 199). In some contemporary studies, mindfulness has been conceptualized as a trait that is subject to individual differences (Feltman, Robinson, & Ode, 2009; Gilbert & Christopher, 2010; Shapiro, Carlson, Astin, & Freedman, 2006). Kabat-Zinn (1994), a leading scholar in this field, defined mindfulness as “paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally” (p. 4). He suggested that mindfulness is an inherent human capacity and that everyone is mindful from moment to moment to a certain degree. Baer, Smith, and Allen (2004) further articulated that people who are higher in mindfulness could be more skillful in “observing” (noticing a variety of stimuli including internal and external stimuli), “describing” (labeling

the observed phenomena or the inner thoughts and emotions by covertly applying words), “acting with awareness” (focusing undivided attention on one thing at a time and fully engaging in one’s current activity rather than on automatic pilot), and “accepting without judgment” (allowing, accepting, or being non-evaluative about the experience of the present moment).

Why can mindfulness promote better psychological well-being? First, it raises people’s awareness by facilitating attention to their needs, values and interests. Being mindful prevents a person from living on “automatic pilot,” that is, being unaware of when old habits such as thoughts, emotions, and body sensations are activated. Automatic reactions activated by daily stressors can cause people to choose coping strategies that fail to best meet their needs in a particular circumstance. Suspending these habitual patterns of reactivity may then facilitate the emergence of self-regulatory functions that are more able to fulfill their needs, or somehow be “wiser.” As such, being mindful can enhance people’s psychological well-being and enable them to cope better with stress. Second, mindfulness involves a particular attitude: accepting without judgment. People with high levels of mindfulness are more competent to observe and be aware of things in a nonjudgmental manner. Even if the experience in the moment is difficult, stressful, painful, or unpleasant, people with high levels of mindfulness are able to recognize this instead of running from or fighting with it. They are more able to be alert to what is actually happening and thus recognize and accept fears. Through this mechanism, stress can be reduced greatly (Haw, 2005).

Over the past decade, most of the studies in this field have focused on testing the effectiveness of mindfulness-based interventions such as mindfulness-based cognitive therapy (Segal, Williams, & Teasdale, 2002). An exception is a study conducted by Palmer and Rodger (2009), in which mindfulness was shown to be associated directly with rational coping but inversely with stress and emotional and avoidant coping in a sample of 135 students from a London university. In another study, Marks, Sobanski, and Hine (2010) found that mindfulness was

associated negatively with depression, anxiety and stress in a sample of 317 Australian high school students. This study also reported an interaction between mindfulness and situational factors. Specifically, mindfulness was found to moderate the relationship between recent life hassles and adolescent mental health. Apart from these two studies, a study by Feltman et al. (2009) also demonstrated the role of mindfulness as a moderator in neuroticism-trait anger and neuroticism-depression relations with a sample of 289 American undergraduates. Their study indicated that the neuroticism-outcome relations were weaker for those high in mindfulness.

Previous studies have found that daily hassles are predictors of psychological distress like depression, anxiety, and stress (Blankstein & Flett, 1992; Marks et al., 2010). Empirical studies show that people high in mindfulness are more able to cope with aversion and thus could achieve better mental health. According to a stress appraisal model proposed by Lazarus and Folkman (1984), the outcomes of any experience that is perceived as stressful depend on how a person cogitates and acts toward the source of stress. An individual high in mindfulness is more likely to have an accurate evaluation of the situation that causes stress and thus is abler to mobilize proper resources to cope with the stress successfully. Under this model, it can be expected that mindfulness should have a role in buffering the impact of daily hassles on stress. However, most of the studies conducted so far have been with people from Western cultures. When “mindfulness” and “Chinese” were used as key words to identify relevant studies in the PsycINFO database with the period of the past twenty years (i.e., 1994–2014), only 112 entries were returned. When “stress” was added into the search as a key word, the number of returns dropped dramatically to 14. This kind of search documents a paucity of research in this area with Chinese people, who constitute a large proportion of the world’s population. Whether mindfulness can still play a role in stress management for people from non-Western cultures (such as Chinese university students) is an issue worthy of pursuing further, as it can help practitioners from non-Western cultures to have more sound evidence

to design and implement relevant interventions for those in need within their own cultures.

Based on previous studies and the theoretical framework presented in the preceding paragraphs, two hypotheses were generated and tested. It was hypothesized that: (a) people high in mindfulness could be less susceptible to stress; (b) mindfulness could weaken the association of stress with daily hassles.

Method

Participants

The participants in this study were 151 Hong Kong university students. All of them were ethnic Chinese. Their ages ranged from 19–24 years, with a mean age of 21.6 years ($SD = 0.98$ year). There were 81 males and 69 females (one participant did not indicate his/her sex). These participants were from a number of different majors: 13 Business, 59 Liberal Arts and Social Sciences, 1 Law, 38 Science and Engineering, 4 Creative Media, 5 Energy and Environment, and 30 from other majors (one participant did not indicate his/her major). More than half (102 participants) were from Year 3, some from Year 2 (37 participants), and a few from Year 1 (7 participants) or Year 4 (3 participants). Two participants did not indicate their year of study.

Measures

As the scales used in the current study were originally written in English, which might not be appropriate for Chinese respondents, a standard forward-backward translation procedure was used. This process involved translation of the items from the original language (English) to another target language (Chinese) by a translator competent in both languages. A second translator who was not familiar with the instrument did back translation (from Chinese into English). After that, the original and back-translated versions were compared to ensure equivalence of the item content and meanings across languages.

Mindfulness Attention Awareness Scale (MAAS)

This measure of level of trait mindfulness was designed to assess the capacity to maintain attention and withstand distraction (Brown & Ryan, 2003). The scale consisted of 15 items. Sample items included “I find myself doing things without paying much attention.” Responses were made on a 6-point Likert scale, ranging from “1 = almost always” to “6 = almost never.” The internal consistency estimate (Cronbach’s α) computed for this study was .89.

Depression Anxiety Stress Scales — Stress Scale

There were 14 items in this scale which measured the level of stress (Lovibond & Lovibond, 1995). It was designed to assess the respondents’ difficulty in relaxing and ease with which they became upset, agitated, irritable, over-reactive, or impatient. This scale has been applied widely to measure the level of stress in non-clinical samples. Responses were made on a 4-point scale with anchors “0 = does not apply to me at all” and “3 = applies to me very much, or most of the time.” The internal consistency estimate (Cronbach’s α) computed for this study was .94.

Inventory of College Students’ Recent Life Experiences

This measure of daily hassles consisted of 49 items (Kohn, Lafreniere, & Gurevich, 1990), designed to identify individual exposure to sources of stress or hassles and to determine the degree to which the respondents had experienced these stressors over the previous month. It measured the frequency, but not the severity, of hassle events, so as to negate the possibility of overlap in affective content with other measurements. Sample items included “Being let down or disappointed by friends” and “Dissatisfaction with your athletic skills.” The participants were asked to rate the frequency with which they had experienced each item over the past month on a 4-point Likert scale, ranging from “1 = Not at all part of your life over the past month” to “4 = Very much part of

your life over the past month.” The internal consistency estimate (Cronbach’s α) computed for this study was .91.

Procedure

The participants were recruited through the researcher’s social network on a voluntary basis. Informed consent was obtained from each participant. A packet of questionnaires was self-administered by the respondents and returned anonymously. They were assured that the data they provided would be kept confidential by the researcher.

Results

As expected, there was a positive correlation between daily hassles and stress ($r = .23, p < .01$). The level of trait mindfulness correlated negatively with stress ($r = -.45, p < .01$). The correlation between trait mindfulness and daily hassles was statistically non-significant (Table 1).

Table 2 shows the regression analysis conducted to examine the possible moderation effect of trait mindfulness on the daily hassles-stress relationship. Daily hassles and trait mindfulness were centered first and then an interaction term was created by multiplying the two centered scores. Daily hassles and mindfulness were entered into a hierarchical regression as a group in the first step, followed by the entry of the interaction term. In Step 1, daily hassles and trait mindfulness as a whole accounted for 28% of the total variance of stress ($F(2, 148) = 28.69, p < .05$). The inclusion of the interaction term accounted for another 2% of variance in the prediction of stress ($F \text{ Change}(1, 147) = 4.78, p < .05$). Inclusion of the interaction term (Daily hassles \times Mindfulness) resulted in a slight change of regression weights of daily hassles (B changed from .128 to .131) and mindfulness (B changed from -5.07 to -4.76). A simple slope analysis demonstrated that the association between daily hassles and stress was evidenced in a statistical sense for those who were low (1 *SD* below the mean) in mindfulness ($b = .20, t = 4.43, p < .001$) but not for those who were

Table 1: Mean, Standard Deviation and Correlations Among Study Variables

Measure	1	2	3	M	SD
1. Stress		.23**	-.45**	9.19	8.49
2. Daily hassles			.12	90.72	19.12
3. Trait mindfulness				3.33	0.80

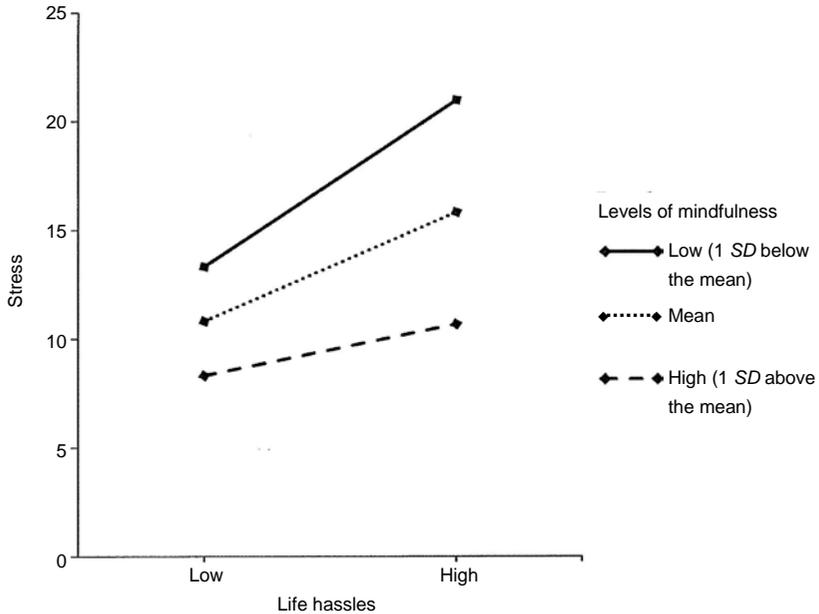
** $p < .01$

Table 2: Prediction of Stress by Daily Hassles, Mindfulness, and Their Interaction

Predictors	ΔR^2	B	SE	β
Step 1	.28**			
Daily hassles		.13**	.03	.29
Mindfulness		-5.07**	.74	-.48
Step2	.02*			
Daily hassles		.13**	.03	.29
Mindfulness		-4.76**	.75	-.45
Daily hassles \times Mindfulness		-.09*	.04	-.15

* $p < .05$, ** $p < .01$

Figure 1. Plots of Level of Stress Against Daily Hassles by Trait Mindfulness



high (1 *SD* above the mean) ($b = .06$, $t = 1.42$, $p = .16$). This shows that the trait of mindfulness did indeed moderate the daily hassles-stress relationship (see Figure 1 for a visualization of this effect). The actual moderating effect appeared to be rather small (standardized β of the interaction term = $-.15$) compared with the main effect of mindfulness (standardized β of the main effect of mindfulness = $-.45$).

Discussion

Although the potential values of mindfulness have been demonstrated in previous research, most studies have focused mainly on the effectiveness of mindfulness-based interventions on stress reduction. By conceptualizing mindfulness as a trait, the present study aimed at examining the relationship of the trait of mindfulness to stress and the role of trait mindfulness in the daily hassles-stress relationship. As the level of stress was shown to be related inversely with trait mindfulness, this study has provided empirical support to the view that people can benefit from being high in mindfulness (Feltman et al., 2009; Gilbert & Christopher, 2010; Jones, 2011; Palmer & Rodger, 2009). In addition, there was also evidence (albeit weak) that a heightened level of trait mindfulness can weaken the negative association between daily hassles and stress. As hassles are unavoidable in daily lives, finding a way to alleviate this impact on mental health is important. The findings of this study have suggested that mindfulness training could be a possible solution for college students to enhance their well-being by making them less prone to stress. To be effective, intervention targets of this construct can be designed in such a way that skills of mindfulness are introduced as a tool for achieving the means of being high in trait mindfulness. To buffer students' stress, strategies and tactics for increasing their mindfulness should be incorporated into future mental health promotion and education programs in higher education. Training the skills of "observing," "describing," "acting with awareness," and "accepting without judgment" could be a good starting point. However, the ultimate goal should target on cultivating students' dispositions

to think and act in a “mindful” manner (i.e., being high in trait mindfulness).

Chinese students represent a large population of students in the higher education sector. According to the Ministry of Education of the People’s Republic of China (2013), there were more than twenty million college students in China in the year 2012. The Institute of International Education (2012) reported that China became the leading place of origin for students coming to the United States (U.S.) in the past few years. There were 194,029 international college students from China who were studying in the U.S. in the academic year 2011–2012 (25.4% of the total number of international students in the U.S., an increment of 23.1% from 2010–2011). While being one of the largest student groups, Chinese college students are also among those who experience high levels of stress. For example, a recent study by Yan and Berliner (2009) reported that stress levels were extremely high for Chinese international students in the U.S. Other studies suggested that Chinese students tend to suffer more stress than students from other countries including North America, France, England, Japan, and South Korea (Chataway & Berry, 1989; Kim, Won, Liu, Liu, & Kitanishi, 1997; Yan & Berliner, 2009). As the current findings have demonstrated the benefits of being mindful with a sample of Chinese university students, this study support the suggestion that mindfulness training could be a possible way to promote their mental health.

In the present study, MAAS was applied to assess the level of trait mindfulness. A standard procedure of forward-backward translation was employed to obtain a Chinese version of the measuring instrument. To our knowledge, there are still limited numbers of mindfulness measures targeting Chinese people. An exception is the Chinese version of the Five Facet Mindfulness Questionnaire (FFMQ) (Deng, Liu, Rodriguez, & Xia, 2011). The FFMQ is a multidimensional instrument which measures five specific skills of practicing mindfulness (observing, describing, acting with awareness, non-judging of inner experience, and non-reactivity to inner experience). Researchers could consider applying both MAAS and FFMQ in future studies to disentangle the possible

effects of different aspects of mindfulness (trait and skills) in moderating the daily hassles-stress relationship. This kind of investigation would advance the understanding about the individual roles of the traits and skills of mindfulness in mental health. Moreover, it is recommended that more rigorous psychometric assessment of MAAS should be conducted to further demonstrate its usefulness with the Chinese population.

Chinese people were introduced to Zen when Buddhism paved its way from India to China. After a long history of development in China and its integration with traditional Chinese thoughts (such as Confucianism and Taoism), it became part of Chinese people's cultural heritage and has exerted influence on various parts of people's lives. Traditional Chinese thoughts such as "I reflect on myself three times a day" fits very well into the ideology of being mindful and thus it is not surprising that Zen-based interventions can be beneficial to the psychological well-being of the Chinese. For instance, Chan et al. (2012) found that Zen (*Chan*)-based intervention could reduce the depression-related symptoms of Chinese participants. The present study have successfully provided evidence of the moderating effect of mindfulness on the daily hassles-stress relationship in a sample of Chinese university students. However, is the dispositional mindfulness in Chinese students potentially higher than that in Western samples? Or is the effect of mindfulness on the daily hassles-stress relationship greater in Chinese samples? These are all interesting questions to be answered in future research on mindfulness. Future studies could also arrange comparison groups with different sets of cultural philosophies to examine cross-cultural differences in mindfulness.

A major limitation of this study is its correlational design that might inhibit any causal inference on how trait mindfulness would relate to stress. Based on the results of this study, people high in mindfulness are abler to mobilize proper resources to cope with stress brought about by daily hassles. However, it is also likely that individuals who are naturally less prone to stress and anxiety will have an easier time being mindful (as practicing mindfulness requires time to concentrate and focus attention). Further research should employ more rigorous design

(such as experimental design) to assess the causal relationship between mindfulness and stress better (e.g., designing a mindfulness training program, implementing the program, and collecting data to assess its effectiveness).

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