



## Short Communication

## Mediation role of individual strengths in dispositional mindfulness and mental health



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## ABSTRACT

The present study was designed to examine the relationship between dispositional mindfulness and mental health through the mediation of individual strengths. A total of 790 community and student participants from 11 communities and four universities joined in this study. The participants completed the Five-facet Mindfulness Questionnaire, Brief Strengths Scale, Brief Symptom Inventory-18, and Flourishing Scale. Results indicated that individual strengths mediated the relationship between dispositional mindfulness and psychological well-being, as well as psychological distress. Therefore, mindfulness training can be expected to help participants be aware of and enhance their strengths. The training can also further improve mental health by increasing well-being and decreasing symptoms.

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## 1. Introduction

The benefits of cultivating dispositional mindfulness in improving well-being and reducing symptoms are remarkably documented. However, studies addressing the underlying mechanisms of mindfulness are scarce (Gu, Strauss, Bond, & Cavanagh, 2015). Bishop et al. (2004) defined mindfulness as a quality of attention with self-regulation and the orientation with accepted attitude. Coffey, Hartman, and Fredrickson (2010) evidently found that “present-centered attention” and “acceptance of internal experience” are two essential characteristics of mindfulness.

The cognitive model highlights two processes affecting mental health, namely, the process of the goals that people notice and the content of the goals that people choose (Lyubomirsky, 2001). Previous studies have demonstrated that dispositional mindfulness should be considered as an attentional stance (Baer & Lykins, 2011) and probably cultivates metacognitions, such as self-awareness and self-schemas (e.g. Hamilton, Kitzman, & Guyotte, 2006; Lyvers, Makin, Toms, Thorberg, & Samios, 2014). Individual strengths serve as self-schemas that organize the categories of self-related information toward the self, others, and the world, as well as self-aware knowledge that facilitates the pursuit of goals, values, and ethical principles. Accordingly, dispositional mindfulness has been suggested to facilitate individuals become aware of and more productively use their individual strengths to enhance mental health. Similarly, Baer (2015) hypothesized that individual strengths might mediate the relationship between mindfulness and mental health

as positive self-schemas. Nevertheless, as of this writing, no study has investigated the abovementioned assumption. The current research is an attempt to fill this gap.

A series of recent studies have independently identified three cross-cultural key strengths in different countries (e.g. Duan, Ho, Bai, & Tang, 2013; Duan et al., 2012; Ho et al., 2016; McGrath, 2015), namely, interpersonal strength, intellectual strength, and temperance strength. Interpersonal strength reflects the personal self-schema related to love, concern, and gratitude toward others. Intellectual strength reflects the schema associated with curiosity and zest for creativity. Temperance strength describes people who persist in achieving goals and exhibit self-control. A global strength factor also exists to reflect the overall profile of individual strength (Ho et al., 2016; McGrath, 2015).

Although no study has investigated the associations between dispositional mindfulness and strengths, some studies found that mindfulness trainings significantly enhance these positive schemas. After participating in the mindfulness-based relationship enhancement program, the self-perceived closeness, relationship satisfaction, and relatedness of couples, as well as their acceptance of each other, significantly increased (Carson, Carson, Gil, & Baucom, 2004). Other studies have indicated that divergent thinking is promoted through mindfulness practice, especially through open monitoring of the present moment to facilitate the generation of new ideas (Colzato, Ozturk, & Hommel, 2012). A brief mindfulness training is also a quick and efficient approach to boosting self-regulation (Frieze, Messner, & Schaffner, 2012). The fact that mindfulness training enhances positive schemas implies that individual strengths may underline the link between mindfulness and mental health.

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The current study aims to examine the relationship between dispositional mindfulness and individual strengths in affecting mental health. A completed mental health profile should comprise both positive (i.e., flourishing) and negative (i.e., psychological distress) components (Keyes, 2005). Good mental health may refer to the prevention of negative comments and promotion of positive ones. Therefore, the relationship between dispositional mindfulness and mental health outcomes (i.e., flourishing and psychological distress) is hypothesized to be mediated by individual strength.

## 2. Method

### 2.1. Participants and procedures

A total of 790 participants (408 females and 382 males; mean age = 26.23,  $SD = 9.00$ ) from communities and universities took part in the current study. Among these participants, 492 had secondary educational levels or below, and 298 completed higher educational levels (i.e., undergraduate and postgraduate). Although the convenient sampling approach was adopted for the 11 communities and four universities, participants from diverse backgrounds (e.g., different majors and grades) were recruited. The participants were asked to provide written informed consent before completing the questionnaire. Trained students majoring in psychology and social work used the paper-and-pencil method to collect data from May 2014 to September 2015.

### 2.2. Measurement

#### 2.2.1. Dispositional mindfulness

The Five-facet Mindfulness Questionnaire (FFMQ) measured five aspects of dispositional mindfulness, that is, the eight-item Observing, eight-item Acting with Awareness, eight-item Describing, eight-item Non-judging, and seven-item Non-reacting. These aspects were developed using a large item pool (i.e., 112 items) from five inventories (e.g., Mindfulness Attention Awareness Scale and Freiburg Mindfulness Inventory) (Baer et al., 2008). These subscales substantively reflected the key components of mindfulness. The participants were required to answer these items using a five-point Likert scale (1 = never or rarely true to 5 = very often or always true). The FFMQ was translated into various languages and applied into various populations to demonstrate high reliability and validity (Duan, 2014). Baer et al. (2008) argued that Observing was a quite sensitive component of mindfulness to changes in meditation practice. Many studies found that Observing was negatively related to psychological distress only among people who regularly practice meditation. Moreover, Williams, Dalgleish, Karl, and Kuyken (2014) showed that the hierarchical four-factor model (without Observing) was the best in non-meditated samples. Therefore, the Observing facet had been suggested for exclusion in the community and college student populations (Baer et al., 2008). The overall score of dispositional mindfulness was calculated without the Observing facet.

#### 2.2.2. Individual strengths

The Brief Strengths Scale was a brief scale used to measure interpersonal strength, intellectual strength, and temperance strength (four items per strength) (Ho et al., 2016). The participants were required to rate up to what extent they disagree (1 = extremely disagree) or agree (7 = extremely agree) with an item on the Likert scales.

#### 2.2.3. Mental health

Two brief inventories were adopted to assess the mental health outcomes. The Brief Symptom Inventory-18 provided an overview of the participants' symptoms and the intensity of these symptoms at a specific period (Derogatis, 2000). The participants were then asked to rate the level of their symptoms from 0 to 4 (from *not at all* to *extremely*) over a preceding week. The mean score of the whole inventory indicated the overall distress (i.e., General Severity Index, GSI). The Flourishing

Scale (FS) was an eight-item scale used to assess the aspects of human positive functioning (Diener et al., 2010; Tang, Duan, Wang, & Liu, 2014). The seven-point Likert scale was adopted for the participants to rate each item from 1 ("strongly disagree") to 7 ("strongly agree"). The mean score of the whole scale indicated the overall psychological well-being.

## 3. Results

### 3.1. Descriptive and correlation analysis

Table 1 presents the mean and standard deviation of dispositional mindfulness, individual strengths, psychological distress, and well-being. Dispositional mindfulness was positively associated to total strength ( $r = .14, p < .01$ ) and Flourishing ( $r = .32, p < .001$ ) but negatively associated to GSI ( $r = -.42, p < .001$ ). Similarly, total strengths had a positive correlation with flourishing ( $r = .49, p < .001$ ) but a negative correlation with the GSI ( $r = -.13, p < .01$ ).

### 3.2. Mediation effect analysis

Two mediation models examining the direct and indirect effects of the total strength between dispositional mindfulness and mental health were tested using Model 4 in the PROCESS program (Hayes, 2013). This program was an SPSS macro-adopting bootstrapping strategy. Each test was resampled 10,000 times and accelerated at 95% confidence interval (CI). The indirect effect was significant if the bias-corrected 95% CI did not contain a zero. The results in Fig. 1 indicated that the total strength partly mediated the relationship between dispositional mindfulness and flourishing and the relationship between dispositional mindfulness and GSI.

## 4. Discussion

This cross-sectional investigation demonstrated the meditational role of individual strengths on the relationship between dispositional mindfulness and mental health (i.e., flourishing and GSI). The results partly elucidated the relationship between mindfulness and strength, as well as the internal mechanism of mindfulness in affecting mental health. Some previous models implicitly described the abovementioned mechanisms. Coffey and Hartman (2008) proposed three mechanisms, that is, emotion regulation, reduced rumination, and nonattachment, to illustrate the beneficial effects of mindfulness on mental health. Emotion regulation referred to the ability of managing affect, particularly the negative affect, such as adjusting cognitive thinking and alerting behaviors to address the source of distress. A reduced rumination was usually associated with the improvement of depression, which benefited mental health by removing attention from repetitive and negative thoughts through mindful attention to the present moment. Attachment was the outcome that individuals attach to unattained goals. Individuals were more likely to ruminate when these important goals were not achieved (Coffey & Hartman, 2008). According to the three abovementioned mechanisms, temperance strength, which was characterized by self-control, was expected to work as an underlying mechanism on the mindfulness–mental health relationships. Similarly, Roche, Haar, and Luthans (2014) recently confirmed the mediation effect of psychological capital on the mindfulness–well-being relationship. Both individual strengths and psychological capital can be recognized as self-aware knowledge, which were mental processes that required being mindful. The direct effects from dispositional mindfulness to mental health outcomes were still very significant, which implied that other factors were certainly at play.

Practitioners and coaches attempted to embed the strengths and mindfulness into an integrated intervention program to examine the combined effect. Accordingly, an eight-week mindfulness-based strengths practice (MBSP) was developed to offer a systematic and

**Table 1**  
Descriptive and Pearson correlation statistics of mindfulness, strength and mental health outcomes.

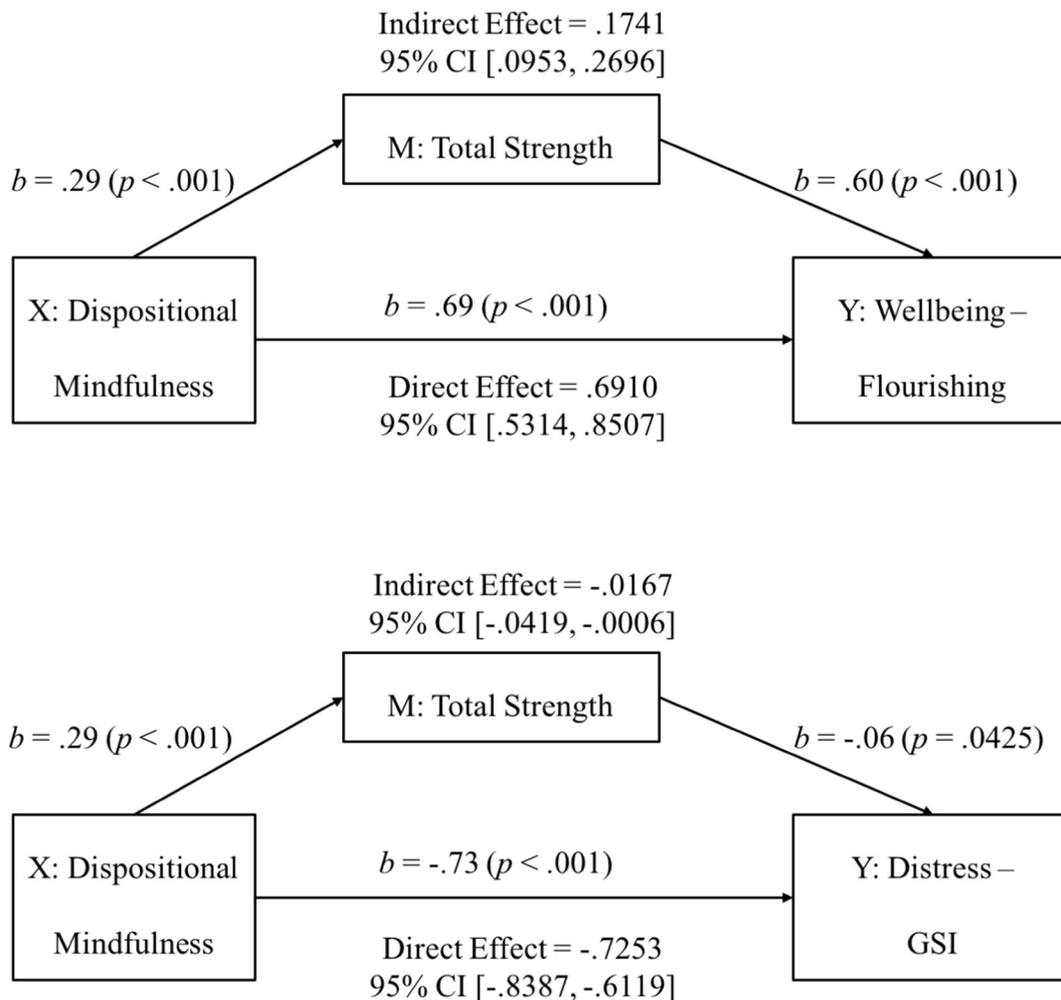
| Variables                   | Pearson correlations |         |         |         |         |        |        |        |        |         |      |  |
|-----------------------------|----------------------|---------|---------|---------|---------|--------|--------|--------|--------|---------|------|--|
|                             | 1                    | 2       | 3       | 4       | 5       | 6      | 7      | 8      | 9      | 10      | 11   |  |
| 1 Dispositional mindfulness | –                    |         |         |         |         |        |        |        |        |         |      |  |
| 2 Non-reacting              | .17***               | –       |         |         |         |        |        |        |        |         |      |  |
| 3 Describing                | .59***               | –.02    | –       |         |         |        |        |        |        |         |      |  |
| 4 Acting with awareness     | .75***               | –.18*** | .22***  | –       |         |        |        |        |        |         |      |  |
| 5 Non-judging               | .59***               | –.16**  | –.03    | .36***  | –       |        |        |        |        |         |      |  |
| 6 Total strength            | .14**                | .10**   | .15**   | .18***  | –.14**  | –      |        |        |        |         |      |  |
| 7 Temperance strength       | .25***               | .13**   | .12**   | .31***  | –.05    | .73*** | –      |        |        |         |      |  |
| 8 Intellectual strength     | –.03                 | .02     | .08*    | –.03    | –.14**  | .72*** | .16**  | –      |        |         |      |  |
| 9 Interpersonal strength    | .08*                 | .06     | .13**   | .11**   | –.14**  | .77*** | .38*** | .42*** | –      |         |      |  |
| 10 Flourishing              | .32**                | .08*    | .33***  | .26***  | –.01    | .49*** | .39*** | .31*** | .38*** | –       |      |  |
| 11 Globe severity index     | –.42***              | –.05    | –.21*** | –.38*** | –.21*** | –.13** | –.13** | –.02   | –.13** | –.34*** | –    |  |
| Mean                        | 2.97                 | 3.14    | 3.09    | 3.13    | 2.52    | 5.47   | 4.95   | 5.53   | 5.91   | 5.26    | 0.57 |  |
| SD                          | 0.33                 | 0.50    | 0.63    | 0.69    | 0.55    | 0.67   | 1.01   | 0.95   | 0.76   | 0.89    | 0.58 |  |
| Cronbach's alpha            | .83                  | .76     | .85     | .73     | .77     | .78    | .75    | .72    | .74    | .87     | .92  |  |

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

integrative approach for practicing both mindfulness and personal strengths (Niemic, 2014). The traditional mindfulness programs aimed to manage stress, pain, depression, and anxiety, among others, whereas the MBSP used mindfulness to explore, build, and enhance the strengths in oneself and in others. Such integration created a beneficial relationship between strengths and mindfulness. This relationship

can foster “a virtuous circle”, in which mindful awareness facilitates strengths and consequently increases mental health. The current study provided some evidence for the MBSP.

In addition, mindfulness and strengths may have different foci in the aspects of mental health. The strengths seem to be more related to enhancing mental well-being (Quinlan, Swain, & Vella-Brodrick,



**Fig. 1.** Indirect effects of total strength on the relationship between mindfulness and mental health. CI = confidence interval.

2012), whereas mindfulness tends to be more related to reducing mental issues (Coffey et al., 2010). Although strengths and mindfulness are important contributors to mental health, they use different paths. Strengths may increase mental well-being through the health behavior model (i.e., adopting different health-related behaviors to increase mental well-being), whereas mindfulness may reduce mental ill-being through the illness behavior model (i.e., adjusting attention to sensations to decrease mental ill-being). Nevertheless, the overall mental health level is improved regardless of whether mental well-being is enhanced or mental ill being is reduced.

Caution should be kept to interpret the findings because of some limitations of the present study. First, the cross-sectional design of the present study inhibits obtaining a causal relationship. A longitudinal mediation model is required to reveal a clearer relationship, and the impact of the baseline state of dispositional mindfulness, strengths, and mental health should be included. Second, the present study only indicates individual strength as one potential underlying mechanism of mindfulness affecting mental health and the relationship between mindfulness and mental health outcomes still significant after adding strengths. Therefore, other factors are certainly at play in facilitating mental health at the same time. Third, whether the mediational model can be generalized to populations with meditation experience is unclear. Baer et al. (2008) argued that dispositional mindfulness is sensitive to meditation practice. Whether the associations of mindfulness, strengths, and mental health become stronger or weaker remains unclear with increase in meditation experience. The current study only involves normal community and student samples. Therefore, future studies need to recruit both meditation and non-meditation populations. Finally, a randomized control trial method should be adopted to further clarify the causal effects of mindfulness-related trainings in enhancing individual strengths because of the essential correlation nature of these analyses and because no peer-reviewed study has reported the MBSP efficacy (Baer, 2015).

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