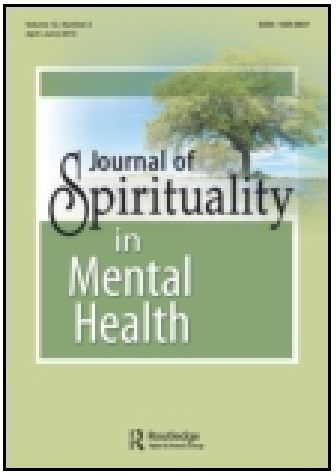

Journal of Spirituality in Mental Health
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/wspi20

Benefits of Mindfulness Meditation on Emotional Intelligence, General Self-Efficacy, and Perceived Stress: Evidence from Thailand

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Published online: 28 Jul 2014.

To cite this article: Peerayuth Charoensukmongkol (2014) Benefits of Mindfulness Meditation on Emotional Intelligence, General Self-Efficacy, and Perceived Stress: Evidence from Thailand, Journal of Spirituality in Mental Health, 16:3, 171-192, DOI: 10.1080/19349637.2014.925364

To link to this article: http://dx.doi.org/10.1080/19349637.2014.925364

Journal of Spirituality in Mental Health, 16:171–192, 2014

ISSN: 1934-9637 print/1934-9645 online
DOI: 10.1080/19349637.2014.925364

Routledge
Taylor & Francis Group

Benefits of Mindfulness Meditation on Emotional Intelligence, General Self-Efficacy, and Perceived Stress: Evidence from Thailand

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This study investigated the benefits of mindfulness meditation practice on self-report emotional intelligence, general self-efficacy, and general perceived stress. The survey data was collected from 317 respondents in Thailand. The results analyzed using the partial least squares regression indicated that mindfulness meditation practice tended to associate positively with emotional intelligence. Practicing mindfulness meditation also negatively relates to general perceived stress directly and indirectly through emotional intelligence. However, the positive association between the meditation and general self-efficacy was only found to be mediated by emotional intelligence.

KEYWORDS mindfulness meditation, self-efficacy, stress, Thailand, emotional intelligence

INTRODUCTION

Research related to the benefits of mindfulness on psychological well-being and a variety of performance measures has been growing extensively over the past decade. Mindfulness is widely defined as the ability to "bring one's complete attention to the experiences occurring in the present moment, in a nonjudgmental or accepting way" (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006, p. 27). Literature has shown that one particular practice that can enhance the level of mindfulness is mindfulness meditation (MM; Brown & Ryan, 2003; Charoensukmongkol, 2013; Jha, Krompinger, & Baime, 2007;

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Kabat-Zinn, 1990). Cahn and Polich (2006, p. 180) defined meditation as "practices that self-regulate the body and mind, thereby affecting mental events by engaging a specific attentional set." The key characteristic of MM is how practitioners learn to be consistently attentive to their own body action (e.g., movement, breath) or internal stimuli (e.g., emotion, thought) that they are experiencing at the present moment (Kabat-Zinn, 2005). MM also requires practitioners to cultivate a moment-to-moment awareness of the self and the environment (Wallace, 2006), acknowledge any stimuli nonjudgmentally (Kabat-Zinn, 1994), and maintain equanimity in the face of any pleasant or unpleasant sensation they are encountering during the practice (Goenka, 2002).

Although MM is rooted in Eastern cultures, research on its contributions in Eastern countries is still lacking compared to Western countries. Therefore, the present study was conducted using the survey data collected from respondents in Thailand who came from diverse backgrounds. The present study aimed to test the outcomes of MM on: (a) emotional intelligence, (b) general self-efficacy, and (c) general perceived stress. These three outcomes were chosen because existing studies have shown that they contributed significantly to better health, well-being, and occupational performance (Bedini, Gladwell, Dudley, & Clancy, 2011; Joseph & Newman, 2010; Yang, Kim, & McFarland, 2011).

In particular, there are two main research questions that the present study intended to address. The first question is whether the regular practice of MM could explain the difference in the level of emotional intelligence, general self-efficacy, and general perceived stress. In addition to the direct effect, the second research question is whether the effect of MM on general self-efficacy and general perceived stress could be mediated by emotional intelligence. Although previous studies have provided some evidence about the contribution of MM on various psychological outcomes, little research tended to focus on its indirect effect. Emotional intelligence was selected as a mediator for this study because it has been shown as a good predictor for self-efficacy (Rathi & Rastogi, 2008) and stress (Salovey, Stroud, Woolery, & Epel, 2002).

BENEFITS OF PRACTICING MINDFULNESS MEDITATION

Emotional Intelligence

Emotional intelligence (EQ) was defined by Salovey and Mayer (1990, p. 189) as "the subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions." EQ represents the ability of individuals to make a connection between emotions and reasoning in a way that enables them to use emotions to guide

their actions and use reasoning to regulate their emotions (Mayer, Salovey, & Caruso, 2000). A number of studies have found EQ to be a good predictor of psychological well-being and work performance (Fitzgerald & Schutte, 2010; Goleman, 1995). As a result, these contributions have made EQ trainings become one of the major interventions to help people deal effectively with various life- and job-related stressors.

Mayer and Salovey (1997) suggested that EQ consists of four functions. First, appraisal and expression of emotion in the self refers to the ability to understand one's own deep emotions and be able to express them naturally. Second, appraisal and expression of emotion in others refers to the ability to perceive and understand the emotions of other people (Goleman, 1995). Third, regulation of emotion in the self refers to the ability to control one's own emotion, which is crucial for an individual to recover quickly when experiencing a negative emotion. Fourth, using emotion to facilitate decision-making represents the ability to direct one's own emotions to help improve performance.

Mindfulness Meditation and Emotional Intelligence

In literature, scholars have reported a positive relationship between mindfulness and EQ (Baer et al., 2006; Brown & Ryan, 2003). Since the objective of MM is to enhance the level of mindfulness, it can significantly facilitate the development of EQ. First, regularly practicing MM can enhance the ability to understand one's own emotions (Brown, Ryan, & Creswell, 2007). Since the meditation training requires practitioners to closely observe their thoughts and feelings moment-to-moment without any judgment or interference, practitioners tend to develop a higher tendency to be aware of their emotional state and change than those who do not. This contribution is supported by a study conducted by Feldman, Hayes, Kumar, Greeson, and Laurenceau (2007), which found that the level of mindfulness was associated positively with more clarity of feelings, attention to feelings, and lower distraction.

Second, people who regularly practice MM can easily develop the ability to detect and understand the emotions of others. In particular, being mindful allows individual to better focus their attention on how other people around them are feeling (Brown et al., 2007), which subsequently helps them decipher emotional cues of others more accurately (Krasner et al., 2009). This contribution is supported by a study conducted by Shapiro, Schwartz, and Bonner (1998), which found that participants who attended the MM program tended to score higher on the overall empathy self-reported measurement. A study by Brown and Kasser (2005) also found that the level of mindfulness tended to associate positively with a felt sense of relatedness and interpersonal closeness.

Third, regularly practicing MM can significantly enhance the ability of individuals to regulate and control their emotions (Cahn & Polich, 2006).

In particular, Feldman et al. (2007) found that people with a higher level of mindfulness tended to recover quickly from emotional distress compared with those with a lower level of mindfulness. Moreover, research found that practicing MM could heighten one's meta-cognitive ability (Zeidan, Johnson, Diamond, David, & Goolkasian, 2010), which is considered a higher-level cognitive ability that allows individuals to monitor and control their thought process (Flavell, 1987). In EQ literature, this meta-cognitive ability was proposed as a crucial ability for people to effectively regulate their emotions (Mayer et al., 2000; Salovey & Mayer, 1990).

Finally, regularly practicing MM can also allow individuals to effectively use their emotions. This is because the quality of being mindful to one's own emotions, both negative and positive, enables one to appropriately focus on a task that might be performed better when a specific emotion is in place; and to avoid performing a task that cannot be performed well under such emotion (Averill, Chon, & Hahn, 2001). For example, George (2000) argued that while being in positive moods is important for tasks that require creativity, integrative thinking, and deductive reasoning, being in a negative mood tends to make people become more effective in tasks that require attention to detail, detection of errors and problems, and careful information processing. Without being sufficiently mindful, on the other hand, it can be difficult for people to focus on a task that could benefit from their currently felt emotion.

Considering the aforementioned arguments, therefore, the first set of hypotheses is presented:

H1: Individuals who regularly practice MM will report higher level of emotional intelligence than those who do not.

General Self-Efficacy

Self-efficacy represents the belief of an individual that he/she can perform well in a specific task (Bandura, 1997, 1999). Studies have found that self-efficacy tended to correlate strongly with many positive individual-level outcomes. For example, it was reported that people with high self-efficacy tended to have better health (Schreurs, van Emmerik, Notelaers, & De Witte, 2010), higher achievement, and better performance (Brady-Amoon & Fuertes, 2011). Studies found that they tended to be optimistic about life and had more confidence that they could deal effectively with life events and stressors (Nasurdin, Ramayah, & Chee, 2009). On the other hand, people with low self-efficacy were reported to have more anxiety and depression (Jimmieson, 2000). Lack of self-efficacy was also found to be associated positively with a sense of helplessness, low self-esteem, and pessimistic thoughts (Schwarzer & Hallum, 2008). Studies conducted in organizational settings

have also found that employees with high self-efficacy tended to have better performance than employees with low self-efficacy (Yang et al., 2011).

Generally, self-efficacy is considered to be domain-specific (Wang & Richarde, 1988). For example, self-efficacy has been applied to some particular situation or function such as job-related efficacy or task-specific efficacy (Lang & Lee, 2005). However, scholars have suggested that self-efficacy can also be considered a global confidence in one's own competence (Schwarzer & Jerusalem, 1995). In this sense, general self-efficacy is defined as "individuals' perception of their ability to perform across a variety of different situations" (Judge, Erez, & Bono, 1998, p. 170). Unlike task-specific self-efficacy, general self-efficacy is a stable trait-like belief in one's own potential to perform well in a wide array of tasks (DeRue & Morgeson, 2007).

Mindfulness Meditation and General Self-Efficacy

There are several reasons to support that individuals who regularly practice MM tend to develop higher general self-efficacy than those who do not. For example, Bandura (1997) proposed that the sources of self-efficacy involve both cognitive and affective processes. From the social cognitive theory, Bandura (1986) argued that individuals tend to act according to how they interpret the realities, and this activity in turn is strongly determined by their level of self-awareness, self-regulation, and self-control. For example, when people are overwhelmed by a negative psychological state such as worry or anxiety, it can be difficult for them to focus their thinking and to evaluate their true potentials accurately. In the same manner, Gundlach, Martinko, and Douglas (2003, p. 232) suggested, "without an awareness or willingness to decipher and understand how one produces beliefs about his/her own [job] capability, it will be difficult to explain, understand, or improve existing self-efficacy levels."

Because self-efficacy belief is influenced by the cognitive process of how people make causal attribution between their abilities and performance outcomes (Bandura, 1997), regularly practicing MM can allow individuals to make more positive attribution because it helps them overcome their pessimistic thoughts. Specifically, a study suggested that the ability to observe the mind's operations nonjudgmentally was associated with more realistic perceptions (Brown et al., 2007). Being aware and having a clear mind also enhance the ability of people to think constructively (Kabat-Zinn, 1990). For example, Feldman et al. (2007) found that people with a high level of mindfulness tended to have a high level of cognitive flexibility, problem analysis, and plan rehearsal and less stagnant deliberation. Furthermore, a study by Astin (1997) reported that participants who completed the MM training tended to demonstrate a higher sense of control over one's cognitive, affective, and behavioral experience. Studies also reported that people with a high level of mindfulness tended to possess a high capability to deal with

challenges and difficulties (Feldman et al., 2007). Therefore, the following hypothesis is presented:

H2: Individuals who regularly practice MM will report a higher level of general self-efficacy than those who do not.

Because the sources of self-efficacy involve an emotional process (Bandura, 1997), this study argues that MM can also indirectly influence general self-efficacy through EQ. Although emotion and cognition are normally treated as independent entities (Zajonc, 1980), scholars have argued that they can be highly interdependent (Storbeck & Clore, 2007). For example, studies have shown that negative emotions tended to hinder the capability of individuals to think rationally (Herabadi, Verplanken, & Van Knippenberg, 2009; van Knippenberg, Kooij-de Bode, & van Ginkel, 2010). In this regard, Gundlach et al. (2003) argued that emotional awareness and emotional regulation are considered key factors that facilitate the perception of self-efficacy because they prevent individuals from being tampered by their negative emotion when making causal attribution between their abilities and outcomes.

Accordingly, the lack of ability to understand and control one's own negative emotions can have a detrimental effect on how people develop general self-efficacy belief. In particular, individuals who are overwhelmed by their negative emotions are less likely to evaluate their potential optimistically compared to when they are having positive emotions (Kavanagh & Bower, 1985). In this regard, Tsai, Chen, and Liu (2007) argued that a positive mood not only makes people easily recall an outstanding performance that they had in the past, but it also enhances their positive feelings about their past performance, thereby allowing them to raise expectation about their ability. Plus, their study conducted on employees and supervisors from insurance companies in Taiwan also found a strong positive relationship between positive mood and task-specific self-efficacy measure (Tsai et al., 2007). Moreover, a study by Rathi and Rastogi (2008), which was conducted on scientists from research organizations in India, found EQ to be a good predictor for occupational self-efficacy. Therefore:

H3: EQ will mediate the positive relationship between practicing MM and general self-efficacy.

General Perceived Stress

According to Lazarus and Folkman (1984, p. 19), individuals tend to experience stress when they perceive events they encounter as "taxing or exceeding his or her resources and endangering his or her well-being." Cohen, Kamarck, and Mermelstein (1983) argued that stress can also be

conceptualized as a generalized perception. Scholars suggested that sources of stress, or stressors, could be caused by macroevents and microevents (Luria & Torjman, 2009). Microevents are any small situations that can happen in everyday life (e.g., missing a bus), which can have a cumulative effect on stress level. On the other hand, macroevents are major life events (e.g., losing a loved one) that suddenly cause stress and can subsequently lead individuals into a deep depression.

Numerous studies have reported that perceived stress tended to associate positively with psychological and health-related problems. For example, a study by Ghorbani, Krauss, Watson, and LeBreton (2008) on American and Iranian samples found that those who were high in stress perception tended to experience higher anxiety and depression, regardless of the national culture characteristics. Bedini et al. (2011) also found that perceived stress was negatively associated with a quality of life measure. Perceived stress not only affects personal life, but can also have a spillover effect on work performance. In an organization, for example, studies have found that employees who reported having high general perceived stress tended to have low job satisfaction and performance (Lourel, Ford, Gamassou, Guéguen, & Hartmann, 2009).

Mindfulness Meditation and General Perceived Stress

Regularly practicing MM can prevent an individual from being preoccupied by stressors. The key benefit of MM on alleviating stress lies in the ability of practitioners to be attentive to their thought and emotional reactions when experiencing stressful situations. In most part, MM is based on the Buddhist wisdom that the emotions and sensations that we experience are transient phenomena; they are impermanent and unstable (Kabat-Zinn, 1990). In fact, the purpose of practicing MM does not give individuals the ability to shield themselves from experiencing any unwanted emotion. Rather, it makes individuals understand and get along well with those unpleasant encounters without being affected by them (Kabat-Zinn, 1990). For this reason, when any stressor that causes unwanted sensations or emotions arises, they only acknowledge it nonjudgmentally until that sensation or emotion fades away on its own (Kabat-Zinn, 1994)

In literature, scholars also argued that mindfulness tends to help individuals deal effectively with unpleasant feelings, particularly because it prevents them from underengaging (e.g., experiential avoiding, through suppressing) and overengaging (e.g., worry, rumination, overgeneralization) with emotional encounters (Baer et al., 2006; Feldman et al., 2007). Moreover, studies have shown that individuals with a higher level of mindfulness tended to experience lower stress-related factors. For example, Christopher and Gilbert (2010) found that mindfulness was positively related to satisfaction with life and low depression. Therefore:

H4: Individuals who practice MM regularly will report a lower level of perceived stress than those who do not.

In addition to the direct effect, the benefit of practicing MM on perceived stress can also be mediated through EQ. Specifically, Salovey et al. (2002) suggested that EQ enhances the cognitive ability of individuals to cope well with stressful events. Plus, a study by Luria and Torjman (2009) showed that individuals who processed higher cognitive resources, as measured by their problem solving ability, demonstrated higher tendency to cope well with stressors over time. However, as mentioned earlier, negative felt emotions can hinder the cognitive ability of individuals to think clearly and accurately (Gundlach et al., 2003). Thus, the ability to understand and manage negative emotion is crucial for people to better evaluate their coping resources to deal with stress.

Studies have shown that people with high EQ tended to come up with more effective coping strategies to deal with stressors. For example, Matthews et al. (2006, p. 98) argued that persons with high EQ "tend to use strategies such as eliciting social support and disclosure of feelings, in place of the maladaptive coping strategy of rumination." Their study also found that participants who had lower EQ not only demonstrated higher worry but also engaged more in avoidance coping when they were assigned to stressful tasks, even after controlling for the five personality factors (Matthews et al., 2006). Finally, a study by Nikolaou and Tsaousis (2002) also found the negative correlation between EQ and occupational stress. Therefore, the final hypothesis is presented:

H5: EQ will mediate the negative relationship between practicing MM and perceived stress.

METHODOLOGY

Participants

The data were collected using the online self-administered questionnaire hosted by Survey Monkey. In order to obtain the respondents, especially those who had regularly practiced MM, to complete the survey, the announcements of the study were posted in several major religious web sites in Thailand. These websites offer discussion boards for members/visitors to discuss about various topics, including meditation practices. The visitors of these web sites are diverse and not just limited to religious purposes. Visitors of the websites were informed about the objectives and contributions of the study and were given the link to enter the online survey. The participation was conducted in a voluntary basis with no monetary compensation.

However, the researcher promised a 10 Thai baht donation to the charity fund for each survey completed.

Approximately two months after the announcement, a total of 317 questionnaires were completed. The final samples included 188 female (59%) and 129 male (41%) respondents. The average age of the respondents was 35 years old ($SD = 10.87$). For education background, 68 had below a bachelor's degree (21%), 177 held a bachelor's degree (56%), 60 held a master's degree (19%), and 12 held a doctoral degree (4%). For occupation, 77 were students (24%), 156 were full-time employees (49%), and 84 were business owners (27%). For marital status, 208 were single (66%) and 109 were married (34%). Finally, 93 of the respondents reported having children (29%) whereas 224 did not (71%). The average number of children was two ($SD = 0.69$).

For MM practice, 200 reported that they had regularly practiced MM (63%) and 117 reported that they did not practice at all (37%). The majority of MM practitioners reported that they meditated by observing their breathing. For the intensity of meditation, the majority of them reported that they meditated 2 hours per day, 7 days per week, and had meditated for 5 years.

Measurements

This study used established scales that have been used by other scholars. To ensure the validity of the constructs, all questionnaire items originally in English were translated to Thai and then back-translated to English by a professional bilingual translator. Finally, the contents from the back-translation were compared with the original contents to ensure that they convey the same meanings.

Mindfulness Meditation

This variable was measured by the number of hours per day, days per week, and the total years that participants had practiced MM. In the survey, respondents were asked if they had regularly practiced MM until the present time. Those who answered yes to this question were then asked to describe how they meditated. Finally, they were asked to estimate the length in hours, days, and years that they had meditated. These variables were coded in ordinal scale. The number of hours ranges from 1 to 8 (1 = *less than one hour;* 2 = *about one hour . . .* 7 = *about six hours; and* 8 = *more than six hours*). The number of days ranged from 1 to 7. The number of years ranged from 1 to 11 (1 = *less than one year;* 2 = *about one year* to 10 = *about nine years;* 11 = *more than ten years*). For those who did not practice MM, these three variables were coded as 0. These numbers were then used to construct a single reflective latent variable.

Emotional Intelligence

The Wong and Law EQ Scale, which was originally developed for measuring the EQ of respondents in the Eastern country, was used to measure the level of EQ (Law et al., 2004; Wong & Law, 2002). The scale contains 16 items in 5-point Likert scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample items include "I have good understanding of my own emotions" (emotion appraisal of self), "I am sensitive to the feelings and emotions of others" (emotion appraisal of other), I am quite capable of controlling my own emotions (emotion regulation), and "I would always encourage myself to try my best" (use of emotion). First, these indicators were used to construct the reflective latent variables of four EQ aspects. The calculation was performed using WarpPLS 3.0. According to Kock (2012), the score of each latent variable is calculated based on the indicators defined by the user as associated with the latent variable. The calculation is based on a partial least squares (PLS) algorithm. The factor scores of each latent variable were then used to construct the second-order latent variable for overall EQ.

General Self-Efficacy

The measurement of general self-efficacy was adopted from Schwarzer and Jerusalem (1995). This scale was tested in 25 countries and received support for it reliability across cultures (Scholz, Doña, Sud, & Schwarzer, 2002). It contains 10 items in a 5-point Likert scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample items of this measure include "I can always manage to solve difficult problems if I try hard enough," and "I am confident that I could deal efficiently with unexpected events."

General Perceived Stress

Perceived stress was measured using the Cohen and Williamson's (1988) Perceived Stress Scale. The scale is designed to measure the degree to which situations in one's life are appraised as stressful. Sample items of this measure include "In the last month, how often have you been upset because of something that happened unexpectedly?", "In the last month, how often have you felt you were unable to control the important things in your life?" It contains 14 items in a 5-point Likert scales ranging from 1 (*never*) to 5 (*always*). However, four items were loaded weakly to the latent variable; therefore they were removed from the model.

Control Variables

Five demographic variables including age, gender, education, marital status, and the number of children were used as control variables. Studies found that

these demographic factors tend to determine the level of outcome variables used in this study (e,g., Gbadamosi and Ross (2012). Gender was measured as a dummy variable where Female was coded 0 and Male was coded 1. Age was measured in years. Education was measured ordinally. Marital status was measured as a dummy variable where single was coded 0 and married was coded 1. The number of children was measured in ordinal values.

Estimation Technique

The model was analyzed using partial least squares (PLS) performed in WarpPLS 3.0 (Kock, 2012). PLS is a technique combining principal component analysis, path analysis, and a set of regressions to generate estimates of standardized regression coefficients for the model's paths and factor loadings for the measurement items (Chin, 1998a). Like the covariance-based SEM method, PLS allows multiple hypotheses to be tested simultaneously while also enabling single-item and multi-item measurement and the use of formative and reflective scales. It also permits the simultaneous assessment of both measurement and structural models. However, PLS provides more flexibility than covariance-based SEM techniques as it does not require the data to be normally distributed (Kline, 2005). Another advantage of PLS is that it allows for smaller sample sizes compared to other SEM techniques, as scholars recommend that at least 30 to 100 observations are adequate for the analysis (Chin, 1998b).

RESULTS

Model Validity and Reliability

Before estimating the model, a series of analyses were performed. Table 1 reports the correlations among variables in the model along with some validity and reliability indicators. First, the construct reliabilities were evaluated using Cronbach's alphas (α). The results showed that all values exceeded the widely recommended minimum value of 0.7 (Fornell & Larcker, 1981). Second, the convergent validity of each item was evaluated using factor loadings. The results indicated that the loadings were greater than 0.5, which is satisfactory as recommended by Hair, Black, Babin, and Anderson (2009). Third, the test for discriminant validity, which requires that a construct should share more variance with its measures than it shares with other constructs in a given model (Hulland, 1999), was also evaluated. This was performed by comparing the average variance extracted (AVE) to the squared correlation coefficient. As suggested by Fornell and Larcker (1981), the square root of the AVE must be greater than correlations between the constructs in order for discriminant validity to exist. The result indicated that the AVE for each construct meets this requirement for all scales. Finally, the test for the possible

TABLE 1 Correlations Matrix

Variable	α	1	2	3	4	5	6	7	8	9
1. Mindfulness meditation	.76	(.821)								
2. Emotional intelligence	.72	.323**	(.739)							
3. Perceived self-efficacy	.92	.271**	.682**	(.758)						
4. Perceived stress	.83	−.353**	−.442**	−.477**	(.637)					
5. Age	—	.106	−.110	−.095	−.201**	(1)				
6. Sex	—	.126*	.080	.179**	−.062	−.105	(1)			
7. Education	—	−.104	−.115*	−.042	−.014	.268**	−.195**	(1)		
8. Marital status	—	.003	−.063	−.157**	−.065	.495**	−.092	.073	(1)	
9. Number of children	—	.067	−.049	−.114*	−.064	.522**	−.032	.023	.685**	(1)

Note. Average variance extracted of latent variables are shown in the parentheses.
*$p < .05$. **$p < .01$.

presence of multicollinearity among the indicators was also performed using the variance inflation factor (VIF) statistics. The VIFs ranged from 1.05 to 2.09, which is considerably below the critical value of 3.3 as suggested by Petter, Straub, and Rai (2007).

Test of Hypotheses

Before testing the hypotheses, the comparison of means of key outcomes variable between MM practitioners and nonpractitioners, regardless of how long they had practiced, was performed using a *t*-test. The results are reported in Table 2. Apparently, those who practiced MM had significantly higher mean scores of EQ and general self-efficacy, and lower mean score of general perceived stress, than those who did not practice at all. These results provided some preliminary evidence about the benefits of MM practice.

Next, analysis results from the structural model after controlling for all demographic variables are presented in Figure 1. The standardized coefficient and *t*-values were calculated using a bootstrap resampling procedure with 100 subsamples (Efron, Rogosa, & Tibshirani, 2004).

TABLE 2 Comparison of Means

	Emotional intelligence		General self-efficacy		General perceived stress	
	M	*t*	*M*	*t*	*M*	*t*
Meditators	.251	6.166***	.198	4.769***	−.235	−5.734***
Non-meditators	−.428		−.339		.401	

*$p < .1$. **$p < .05$. ***$p < .01$.

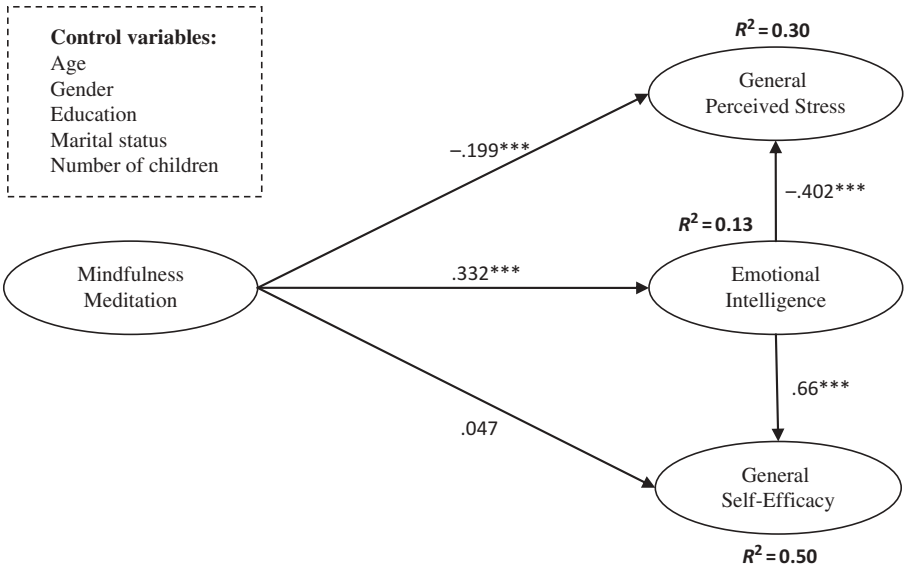

FIGURE 1 PLS Results

Note. Standardized coefficients are reported. Control variables pointing to each dependent variable are not shown.
$^{*}p < .1$. $^{**}p < .05$. $^{***}p < .01$.

First, for the association between MM and EQ, the result showed the positive relationship between the two variables, suggesting that practicing MM can be linked to higher EQ. This relationship was also statistically significant ($\beta = .332$; $p < .01$). Therefore, Hypothesis 1 was supported.

For the direct relationship between MM and general self-efficacy, although the result indicated a positive association between the two variables, it was not statistically significant ($\beta = .047$; $p = .149$). Thus, Hypothesis 2 was not supported. However, it appeared that the effect of MM on general self-efficacy could be mediated through EQ, as the link between EQ and general self-efficacy was statistically significant ($\beta = .66$; $p < .01$). To test the mediating effect, the method proposed by Preacher and Hayes (2004) was performed. The analysis revealed a strong indirect link between MM and general self-efficacy, which was mediated by EQ. This indirect link was statistically significant ($\beta = .219$; $p < .01$). Therefore, Hypothesis 3 was supported.

For the direct relationship between MM and general perceived stress, the result revealed the negative relationship between the variables, which was statistically significant ($\beta = -.199$; $p < .01$). Thus, Hypothesis 4 was supported. Moreover, there was a negative association between EQ and general perceived stress that was statistically significant ($\beta = -.402$; $p < .01$). The result from of the test of the mediating effect also found that the effect of MM

on general perceived stress was also strongly mediated by EQ. This indirect link was statistically significant ($\beta = -.133$; $p < .01$). Therefore, Hypothesis 5 was supported.

Next, the significant relationships between control variables and the main dependent variables were reported as the following. First, age was negatively associated with general perceived stress ($\beta = -.311$; $p < .01$). For gender, males tended to report higher general self-efficacy ($\beta = .125$; $p < .01$) than females. For education, the results only revealed its positive relationship with general self-efficacy ($\beta = .062$; $p = .08$). For marital status, married persons tended to report lower general self-efficacy ($\beta = -.107$; $p = .03$) than single persons. Lastly, there was no significant relationship between the number of children and any of the dependent variables.

For the model fit indicators, three indices are provided by WarpPLS: average path coefficient (APC), average *R*-squared (ARS), and average variance inflation factor (AVIF). The *p*-values for APC and ARS are calculated through a complex process that involves resampling estimations coupled with Bonferroni-like corrections (Rosenthal & Rosnow, 1991). For the model fit indices to be satisfactory, the *p*-values for the APC and ARS must be lower than 5%, whereas the AVIF must be lower than 5. From the analysis, the APC is equal to .13 the ARS is equal to .308, and the AVIF is equal to 1.475. Both APC and ARS are statistically significant at .1%.

Finally, to check if the results from the analysis were affected by outliers, the author performed the analysis using ranked data and compared the results with the original results. In particular, WarpPLS 3.0 allows users to select an option to conduct the analyses with only ranked data, whereby all the data are automatically ranked prior to the SEM analysis. When data are ranked, typically the value distances that typify outliers are significantly reduced, effectively eliminating outliers without any decrease in sample size (Kock, 2012). The results show that all the path coefficients as well as the *p*-values from the analysis using ranked data did not change from the original findings, suggesting that outliers are not a major problem in the analysis.

DISCUSSION

General Findings

This study contributes to existing research related to benefits of MM. This study, which focused on diverse groups of respondents from Thailand, tested the direct and indirect effect of practicing MM on EQ, general self-efficacy, and general perceived stress. In particular, evidence was found about the direct effects of practicing MM on EQ and general perceived stress. On the other hand, the indirect effects of MM were found, through EQ, for general self-efficacy and also for general perceived stress.

First, the results indicated that regularly practice of MM tended to be a good predictor of EQ and general perceived stress. In particular, those who had regularly practiced MM tended to report higher EQ and lower general perceived stress than those who did not. These results are consistent with past research conducted in the Western countries on the benefits of MM (Feldman et al., 2007). In addition to the direct effect, the present study found that regularly practicing MM may allow people to experience less stress perception indirectly through EQ. Because people who had regularly practiced MM were frequently mindful to their inner self more than those who did not, they tended to be better in deciphering how and why their emotion was triggered by a specific stimuli and how it should be managed. This, in turn, allowed them to adjust their emotion more quickly or to direct their attention to other appropriate activities that suit their currently felt emotion more effectively whenever they experienced stress. These benefits were therefore considered important factors that may be associated with less stress perception. Furthermore, this study offers new evidence that MM practice was also associated with higher general self-efficacy. However, the results suggested that the linkage was only achieved indirectly through EQ. This finding is consistent with the argument that emotions can exert a strong influence on how people make causal reasoning about their capabilities to achieve challenge tasks (Gundlach et al., 2003).

Practical Implications

Given all the findings, this research provides implications that can help people improve their well-being. Considering the hectic lifestyle of the population in developing countries such as in Thailand (Floro & Pichetpongsa, 2010), it is inevitable that people will be exposed to various life- and work-related stressors that are harmful to their health and psychological well-being (Taylor, 2009). This study suggests that MM can be considered an intervention that can significantly help people deal effectively with those stressors. Importantly, practicing MM could be associated with the ability of people to maintain peace of mind despite experiencing unfavorable situations in their work and life. Moreover, the indirect benefit of practicing MM on general self-efficacy suggested that MM intervention may also help people improve their ability to perform challenge tasks, as the clarity of mind and the stability of emotion can promote more optimistic thinking and enhance their belief that they can effectively overcome any difficulty and obstacle.

The strong associations between MM practice and key psychology outcomes that were found in this paper also offer important implication to organizations. Because having good mental health can help people develop inner strength to cope well with stressors, the author suggests that organizations should consider MM training as an intervention to help employee develop the capability to deal effectively with stress at work. Offering MM

training can also help employees improve their focus and alertness (Kabat-Zinn, 2005), thereby allowing them to concentrate better on their tasks at hand.

Limitations

There are several limitations in this study that need to be addressed. The major limitation of this study is its cross-sectional research design. In particular, using a cross-sectional design make it difficult for researchers to infer causality between constructs (Maxwell & Cole, 2007). Moreover, there is a possibility for the bidirectional relationships between the variables in the study. For example, it could be possible that less perceived stress could mediate an indirect effect of MM on EQ. Using a cross-sectional study make it difficult to check for the bidirectional causality in the model. Because of these limitations, it is important for future research to use an experimental design to test the causal association between MM practice and the outcome variables over time. Future research that uses longitudinal design will provide more solid evidence whether MM practice can lead to improvement in these outcome variables.

Second, the level of mindfulness of the respondents was not measured in this study. However, based on the results from previous research that found that the intensity of MM practice tended to be associated positively with mindfulness measures (Baer et al., 2008), the present study assumed that the measure of MM practice (the numbers of hours per day, days per week, and years of practice) would associate positively with the level of mindfulness. However, it is possible that the measure of the MM practice may not accurately capture the level of mindfulness that participants developed from the practice. Thus, future research should also incorporate a mindfulness measure in the studies.

Another limitation is the self-report measurements of the key variables, which may not be the accurate measurement of the constructs. Some scholars may claim that self-report measurements may have also inflated the relationships among them because of common method variance (van Beek, Hu, Schaufeli, Taris, & Schreurs, 2012). However, Spector (2006) argues that self-reports may not necessarily inflate associations between variables and do not necessarily lead to significant results. The second limitation of this study is the sample selection, which only targeted the visitors of the religion websites. This sample selection method can limit the ability to generalize the findings to the larger population of the country. Therefore, future research focusing on different groups of samples from other sources is needed. In addition, because this study employed the data collected from a diverse group of respondents, general self-efficacy can only be investigated. Future research should target a specific group of respondents (e.g., by similar occupation

or the same workplace) to test whether practicing MM can associate with specific self-efficacy measures.

CONCLUSION

In summary, this study offered some evidence that practicing MM can associate strongly with higher EQ, higher general self-efficacy, and lower general perceived stress. Having good mental health is crucial for people to live happily and to be more effective at work. Therefore, the author concludes that MM could be an essential practice that people should learn so that they can apply the technique to help them improve their psychological well-being.

FUNDING

This research received financial support from the International College of National Institute of Development Administration.

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