A R T I C L E S

ROCZNIKI PSYCHOLOGICZNE / ANNALS OF PSYCHOLOGY
2018, XXI, 4, 299-307
DOI: http://dx.doi.org/10.18290/rpsych.2018.21.4-1

MATEUSZ ADAMIK
The John Paul II Catholic University of Lublin, Poland
Institute of Psychology

DOES MINDFULNESS MODERATE THE RELATIONSHIP BETWEEN SELF-REPORTED EMOTIONAL INTELLIGENCE AND FACIAL EXPRESSION RECOGNITION?

Modern psychology is increasingly interested in phenomena related to the flourishing of a human being, such as mindfulness or emotional intelligence (EI). Mindfulness, according to Kabat-Zinn, is "the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment" including the experience of emotions. The most widely studied EI concept was introduced by Salovey and Mayer. They defined it as the ability to monitor emotions and use this information to guide one's thinking and actions. One of the skills involved in EI is the recognition of emotions based on facial expressions. Interestingly, there is no link between self-reported emotional intelligence, measured by a questionnaire, and the ability to recognize facial expressions measured by a task test. Mindful people are more attuned to their implicit emotions and can reflect this awareness in their explicit self--descriptions. The purpose of this study is to examine the relationships between mindfulness and emotional intelligence, and to examine the moderating role of mindfulness in the relationship between self-reported EI and the ability to recognize facial expressions. The participants were 120 students from different universities of Lublin, Poland, who completed the Mindful Attention Awareness Scale (MAAS) by Brown and Ryan as translated into Polish by Jankowski, the Schutte Self-Report Inventory as adapted into Polish by Jaworowska and Matczak (*Kwestionariusz Inteligencji Emocjonalnej*; INTE), and the Emotional Intelligence Scale – Faces (*Skala Inteligencji Emocjonalnej – Twarze*; SIE-T) developed by Matczak, Piekarska, and Studniarek. The results

Address for correspondence: MATEUSZ ADAMIK – The John Paul II Catholic University of Lublin, Institute of Psychology, Al. Racławickie 14, 20-750 Lublin, Poland; e-mail: mat.adamik@gmail.com

The article is based on my master's thesis, which was supervised by Prof. Zbigniew Zaleski, PhD, DSc, and reviewed by Tomasz Jankowski, PhD. I am deeply grateful for the help I received in editing work and statistical calculations as well as for discussions and critical comments.

show a positive relationship of emotional intelligence with mindfulness. A positive correlation was also found between mindfulness and the recognition of emotions, which is a component of EI. There was no correlation between mindfulness and the other EI component – using emotional information to guide one's thinking and actions. As expected, there was no relationship between self-reported EI and the ability to recognize facial expressions, but – contrary to expectations – mindfulness was not a moderator of this relationship.

Keywords: mindfulness; emotional intelligence; facial expression recognition; moderator.

INTRODUCTION

In modern psychology, a field called positive psychology is being developed. It is meant to complement the theory and research developed in the medical paradigm and the negative definition of health as a lack of disease. The term "positive" suggests that in this orientation researchers' interests are focused not on dysfunction but on the study of self-actualized people and on formulating conclusions concerning the optimal traits and conditions of human flourishing (Seligman & Csikszentmihalayi, 2000). The characteristics named as related to the development and well-being include mindfulness and emotional intelligence (Schutte & Malouff, 2011).

Mindfulness goes back to Buddhist psychology, where for two and a half thousand years it has been cultivated and strengthened by meditation techniques. Kabat-Zinn (2003, p. 145), the Western precursor of the use of mindfulness in medicine, defines it as "the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment." The techniques he proposes to develop mindfulness are: observation of the flow of breath, directing attention to the sensations in the body, and the awareness of thoughts flowing by and the emotions related to them (Kabat-Zinn, 2009). As emphasized by researchers (Brown & Ryan, 2003), there are also natural differences in dispositional mindfulness among people without training. What is characteristic of mindless people is that they are often unaware of the experienced or observed emotions. According to Goleman (2014), this emotional awareness is the basis of emotional intelligence (EI).

Salovey and Mayer (1990), the authors of the concept of emotional intelligence, assumed that emotions are information for the person who is experiencing them. They defined emotional intelligence as "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" (p. 189). The definition as well as the set of skills included in emotional intelligence have been studied and ex-

panded (Mayer & Salovey, 1999). Empirical support for Salovey and Mayer's theory was provided by Anna Matczak's research (2006), which pointed to the existence of two emotional intelligence factors. The operative factor concerns the efficacy of motivational functions of emotions in guiding thinking and actions, while the cognitive factor of emotional intelligence refers to the ease of recognizing and understanding one's own and other people's emotions.

In addition to the abovementioned model of ability emotional intelligence, there is also a model of trait emotional intelligence. It refers to typical performance, and thus to dispositions displayed in everyday situations. Self-report questionnaires are used for its operationalization. The ability model, by contrast, indicates the maximum performance and the current abilities revealed by a person in particularly motivating circumstances. Ability emotional intelligence should be operationalized through the maximum-performance test (Petrides & Furnham, 2001). Matczak and Knopp (2013, pp. 15-16) also distinguish emotional competence – the already achieved specific ability to cope with various situations in everyday life – from emotional ability, understood as the cognitive ability that enables people to acquire effective ways of functioning. In this article, emotional intelligence is distinguished from self-reported personal competence in emotional intelligence (measured by a questionnaire) and from the specific ability to recognize emotions based on facial expressions (measured by a test). There was no relationship between constructs understood in this way in a group of students (including psychology students) and in a group of adults (Matczak, Piekarska, & Studniarek, 2005). This may be evidence of the discussed disparity of emotional intelligence models measured by the test and the questionnaire or (as assumed in the present study) of the role of the adequate self-knowledge and insight into emotional phenomena that mindfulness would ensure.

Research confirms the relationship of emotional intelligence with dispositional mindfulness regardless of sex, but the relationship depends on the tool used to measure the latter. This correlation is stronger in the elderly (Miao, Humphrey, & Qian, 2018). Elsewhere, it has been shown that dispositional mindfulness supports the development of emotional intelligence, which leads to better coping with stress (Heidari & Morovati, 2016) and an increase in well--being. This effect occurred in a group of adult students with a prevalence of women (Schutte & Malouff, 2011), as well as in a more gender-balanced group of adult Chinese subjects (Wang & Kong, 2014). Thus, mindfulness makes it possible to guide emotions (one's own and other people's), creating conditions for insight into one's own emotions and fostering openness to the manifestations

of emotions in others. Mindful people have a greater ability to regulate emotions (which allows them to recover faster in stressful situations) and to use them to motivate themselves and increase productivity; consequently, they assess their lives as less stressful (Bao, Xue, & Kong, 2015).

Jankowski's research (2008) showed that mindfulness disposition is related to the self-concept clarity, understood as the degree of certainty, coherence, and stability of a person's beliefs about themselves. This arques that mindful people will adequately answer questions about their emotional intelligence competence in a self-report questionnaire. On the other hand, the study by Brown and Ryan (2003) showed that dispositional mindfulness is a moderator of agreement between latent and explicit affect. In other words, more mindful people may be better tuned to their implicit emotions and reflect this awareness in their self--report declarations. Therefore, people with higher mindfulness should be characterized by insight and adequate self-knowledge regarding the emotional sphere. Their declarations on the level of emotional intelligence will be more accurate (due to the self-concept clarity), which should be reflected in the level of task test performance (and vice versa: the level of task performance should be reflected by self-report declarations).

The aim of this study was to explore the relationship between dispositional mindfulness and emotional intelligence and to test the moderating role of mindfulness in the relationship between emotional intelligence and facial expression recognition. I formulated the following hypotheses:

– there is a positive relationship between mindfulness and emotional intelligence as well as its components;

– mindfulness moderates the relationship between self-reported emotional intelligence and the ability to recognize facial expressions.

METHOD

One hundred and twenty students from universities located in Lublin (Poland), 88 females and 32 males, participated in the study. The mean age for the sample was 22 (SD = 2.55). The vast majority of the participants (81%) were psychology students.

In order to measure mindfulness, I used the Mindful Attention Awareness Scale (MAAS) by Kirk W. Brown and Richard M. Ryan (2003) as translated into Polish by Tomasz Jankowski (2006). The scale measures individual differences in the disposition to be mindful, contrasted with the state of mindlessness. It

consists of 15 items. The respondent rates the items, determining the frequency of the experiences described in them, by marking his/her answer on a 6-point Likert scale, where 1 means *almost always* and 6 means *almost never*. Because the statements are negative (indicating mindlessness), the higher a person's score, the higher dispositional mindfulness he/she displays. In the present study, Cronbach's alpha coefficient was .83.

Another measurement tool used in the study is the Emotional Intelligence Questionnaire (INTE; Jaworowska & Matczak, 2008), based on the original version of Salovey and Mayer's (1990) theory. It measures emotional intelligence as a general outcome and two emotional intelligence components: the operative factor, understood as the ability to use emotions to support thinking and actions, and the cognitive factor understood as the ability to recognize emotions. The questionnaire consists of 33 items, rated by the respondent on a scale from 1 (*definitely disagree*) to 5 (*definitely agree*). The higher the sum of the scores in the questionnaire and in its subscales, the higher the level of emotional intelligence and the abovementioned components. In the present study, Cronbach's alpha coefficient was .81 for the overall score, .67 for the operative factor, and .75 for the cognitive factor.

The last measurement tool is the Scale of Emotional Intelligence – Faces (SIE-T) by Anna Matczak, Joanna Piekarska, and Elżbieta Studniarek (2005). The test is used to measure a component of emotional intelligence – the ability to recognize emotions based on facial expressions. The test material is eighteen photographs of the faces of two actors: one female and one male. A set of six emotions is assigned to each face. The respondent's task is to determine whether a given face expresses a given emotion, whether it does not express it, or whether it is hard to tell. Each response is treated as correct or incorrect. The higher the test result, the better the ability to recognize emotions based on facial expressions is. In the present study, Cronbach's α coefficient was .73.

The respondents completed demographic questions, the INTE questionnaire, the MASS scale, and the SIE-T scale in this particular order. After the end of the study, they could comment on the procedure.

RESULTS

In order to test the hypotheses, I performed analyses of reliability, normality of distribution, correlation, and moderation.

Almost all distributions can be considered normal except for the distribution of the facial expression recognition variable, for which the Kolmogorov-Smirnov

test was found to be significant (see Table 1). The correlation between the variables were verified by Pearson's *r* coefficient. For the distribution of facial expression recognition scores, Spearman's *rho* coefficient was given. Dispositional mindfulness correlated slightly but positively both with the overall level of emotional intelligence (r (120) = .25, p <.01), as well as with EI cognitive factor (r (120) = .29, p < .01). It was not related to EI operating factor. A tendency appeared for a slight positive relationship between EI cognitive factor and the ability to recognize facial expressions (r (120) = .16, p = .091). In line with previous studies (Matczak et al., 2005), there was no correlation between self-reported emotional intelligence (the overall score) and the ability to recognize facial expressions (Table 2).

Table 1

*Reliability (Cronbach's α), the Kolomogorov-Smirnov Normality Test, Skewness, and Kurtosis for Dispositional Mindfulness, Emotional Intelligence Along With Its Operative and Cognitive Factors, and Facial Expression Recognition (*N = *120)*

	α	Mean (*M*)	Standard deviation (*SD*)	K-S (*Z*)	Skewness	Kurtosis
Dispositional Mindfulness	.83	62.12	10.00	.06	0.24	-0.02
Emotional Intelligence	.81	127.82	9.96	.07	0.08	-0.61
EI Operative Factor	.67	63.42	5.12	.08	0.04	-0.57
EI Cognitive Factor	.75	46.20	4.76	.08	-0.02	0.11
Facial Expression Recognition	.73	76.00	8.50	.10**	-0.98	1.27

Note. ** $p \leq .01$. Standard error for skewness: 0.22; for kurtosis: 0.44.

Table 2

*Correlations Between Dispositional Mindfulness, Emotional Intelligence and Its Factors, and the Ability to Recognize Expressions (*N = *120)*

	1	2	3	4	5
1. Dispositional Mindfulness	1.00				
2. Emotional Intelligence	.25**	1.00			
3. EI Operative Factor	.13	.83**	1.00		
4. EI Cognitive Factor	.29**	.77**	.40**	1.00	
5. Facial Expression Recognition (*Rho*)	.10	.10	.04	.16+	1.00

Note. + $p \leq .10$; ** $p \leq .01$.

In order to test the moderation of the mindfulness function, I performed a hierarchical regression analysis. After the standardization of the predictors (emotional intelligence and dispositional mindfulness), I created an interactive component. The dependent variable was the ability to recognize facial expressions. Analysis of variance (ANOVA) revealed that the regression analysis model with the interactive component was not significant, $F(3, 116) = 0.52$, *ns*, which indicates a poor fit of the model to the dataset. Similarly, the beta regression coefficients turned out not to be significant. The next pair of predictors of which an interactive component was created were the ability to recognize facial expressions and dispositional mindfulness, whereas the dependent variable was emotional intelligence. ANOVA indicated the significance of the model fit to the interactive component, $F(3, 116) = 3.19$, $p < .05$. However, the beta regression coefficient for the interactive component proved not to be significant. It should therefore be concluded that mindfulness is not a moderator of the relationship between self-reported emotional intelligence and the ability to recognize facial expressions.

SUMMARY AND DISCUSSION

In line with previous data (Schutte & Malouff, 2011; Wang & Kong, 2014; Heidari & Morovati, 2016; Miao et al., 2018), the present study confirmed the relationship between dispositional mindfulness and emotional intelligence. There is also a relationship between dispositional mindfulness and the cognitive component of emotional intelligence – the recognition of emotions. This means that people who are more often mindful declare themselves as more emotionally intelligent and better at emotion recognition in themselves and in others. However, there is no relationship between dispositional mindfulness and the operative factor of emotional intelligence. This suggests that the more active process of using emotions to support thinking and actions is the domain of emotional intelligence itself, contrary to the passive nature of mindfulness. This is not in line with the findings reported by Bao and colleagues (2015), but such an interpretation must be approached with caution due to the low reliability of the operative factor of emotional intelligence in this study.

In line with previous data (Matczak et al., 2005), self-reported emotional intelligence does not correlate with facial expression recognition. Contrary to what was assumed, mindfulness is not a moderator of this relationship. This is an argument for different models, treating emotional intelligence as a trait or ability

with proper operationalization (Petrides & Furnham, 2001) and distinguishing crystallized emotional competencies revealed in everyday life from potential fluid abilities (Matczak & Knopp, 2013). It is opposed to the prediction made in the present study that the level of self-reported emotional intelligence would reflect the level of performance in the emotion recognition test (and vice versa) in people with high dispositional mindfulness – i.e., in people well attuned to themselves and having adequate self-knowledge. On the other hand, in the present study dispositional mindfulness was treated as an individual differences variable (the subjects did not undergo mindfulness training). Kabat-Zinn (2003) states that mindfulness happens, but it is not a natural state of mind and should be induced or practiced. In this context, it would be interesting to replicate this study with a sample of people after mindfulness training or with meditative experience.

It is also worth mentioning the respondents' feedback after the completion of the study. Having assessed themselves in the INTE questionnaire, they observed a drop in mood and motivation in solving the SIE-T test, which turned out to be much more difficult. As the authors of the latter test point out (Matczak et al., 2005, p. 53), the mood is not related to the test results, except in the case of female students. However, in the case of future psychologists (81% of respondents), the experience of self-assessment in the field of emotional intelligence, incompatible with difficulties in "reading" emotions through face, may cause dissonance and have an impact on the subjects' motivation and mood, and thus on the results. In further studies, it is worth examining whether the order in which the self-report questionnaire and the task-based questionnaire are administered in the context of emotional intelligence affects the results.

REFERENCES

Bao, X., Xue, S., & Kong, F. (2015). Dispositional mindfulness and perceived stress: The role of emotional intelligence. *Personality and Individual Differences, 78*, 48-52.

Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology, 84*(4), 822-848.

Goleman, D. (2014). *Focus.* Poznań, Poland: Media Rodzina.

Heidari, M., & Morovati, Z. (2016). The causal relationship between mindfulness and perceived stress with mediating role of self-efficacy, emotional intelligence and personality traits among university students. *Electronic Journal of Biology, 12*(4), 357-362.

Jankowski, T. (2006). *Struktura koncepcji siebie i procesy przetwarzania informacji o sobie u osób o różnym stopniu uważności* [The structure of the self-concept and self-information processing in people with varying levels of mindfulness] (Unpublished doctoral dissertation). The John Paul II University of Lublin, Poland.

Jankowski, T. (2008). Integrująca rola uważności w kształtowaniu struktury koncepcji siebie [Mindfulness as an integrating factor for the self-concept structure]. *Przegląd Psychologiczny, 51*(4), 443-464.

Jaworowska, A., & Matczak, A. (2008). *Kwestionariusz Inteligencji Emocjonalnej INTE. Podręcznik* [INTE Emotional Intelligence Questionnaire. Manual]. Warsaw, Poland: Psychological Test Laboratory of the Polish Psychological Association.

Kabat-Zinn, J. (2003). Mindfulness-based interventions in context: Past, present, and future. *Clinical Psychology: Science and Practice, 10*(2), 144-156.

Kabat-Zinn, J. (2009). *Życie piękna katastrofa. Mądrością ciała i umysłu możesz pokonać stres, choroby i ból* [Full catastrophe living. Using the wisdom of your body and mind to face stress, pain, and illness]. Warsaw, Poland: Czarna Owca.

Matczak, A. (2006). Natura i struktura inteligencji emocjonalnej [The nature and structure of emotional intelligence]. *Psychologia, Etologia, Genetyka, 13*, 59-87.

Matczak, A., & Knopp, A. K. (2013). *Znaczenie inteligencji emocjonalnej w funkcjonowaniu człowieka* [The importance of emotional intelligence in human functioning]. Stare Kościeliska, Poland: Liberi Libri.

Matczak, A., Piekarska, J., & Studniarek, E. (2005). *Skala Inteligencji Emocjonalnej – Twarze. Podręcznik* [SIE-T Emotional Intelligence Scale – Faces. Manual]. Warsaw, Poland: Psychological Test Laboratory of the Polish Psychological Association.

Mayer, J. D., & Salovey, P. (1999). Czym jest inteligencja emocjonalna? [What is emotional intelligence?]. In P. Salovey & D. J. Sluyter (Eds.), *Rozwój emocjonalny a inteligencja emocjonalna. Problemy edukacyjne* [Emotional development and emotional intelligence: Educational implications] (pp. 23-69). Poznań, Poland: Rebis.

Miao, C., Humphrey, R. H., & Qian, S. (2018). The relationship between emotional intelligence and trait mindfulness: A meta-analytic review. *Personality and Individual Differences, 135*, 101-107.

Petrides, K. V., & Furnham, A. (2001). Trait emotional intelligence: Psychometric investigation with reference to established trait taxonomies. *European Journal of Personality, 15*(6), 425-448.

Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition, and Personality, 9*, 185-211.

Seligman, M. E., & Csikszentmihalayi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55*, 5-14.

Schutte, N. S., & Malouff, J. M. (2011). Emotional intelligence mediates the relationship between mindfulness and subjective well-being. *Personality and Individual Differences, 50*, 1116-1119.

Wang, Y., & Kong, F. (2014). The role of emotional intelligence in the impact of mindfulness on life satisfaction and mental distress. *Social Indicators Research, 116*(3), 843-852.

The preparation of the English version of *Roczniki Psychologiczne* (Annals of Psychology) and its publication in electronic databases was financed under contract no. 836/P-DUN/2018 from the resources of the Minister of Science and Higher Education for the popularization of science.