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Can emotional abilities protect from stress? The relationship between emotional abilities and stress perceived by women and men

Introduction

Stress is the experience of every human being. In the life of every person, there are difficult situations which are perceived as stressful and violate one's internal balance. In accordance with the transactional approach, stress is defined as the relationship between an individual and the environment, which is viewed as a threat to wellbeing if its demands overload and exceed personal resources (Lazarus & Folkman, 1984). People differ both in the number of experienced stressful situations, the intensity of the stressors to which they are exposed, and their response to them. Individual differences in response to stressors and in appraisals in term of threat, loss, or challenge are associated with many factors, including temperamental and personality characteristics such as emotional reactivity and neuroticism.

Resilience belongs to those personal resources which play an important role in coping with stressful situations (Ogińska-Bulik & Kobylarczyk, 2016). It is understood as the process of adaptation to traumatic and stressful events and faced adversities (American Psychological Association, 2011).

According to the multi-system model of resilience, it can be described in three spherical levels that refer to different sources of resilience (Liu et al., 2017). Core resilience is the central layer, consisting of intraindividual factors like physiology and health behaviours, and it is the foundation of the overall personal resilience in life. The next layer is internal resilience, which is created by factors acquired and developed in interpersonal relationships. These include, among others, the impact of education, family, or friends, as well as learning from one's own experiences. Internal resilience also consists

of abilities, competences, and knowledge. The last layer is external resilience, which refers to all socio-ecological factors that facilitate adaptation and coping in difficult situations. For instance, socioeconomic status or access to healthcare can be considered as belonging to external resilience. The resources in each layer determine the human resilience to stressful events. Referring to this conceptualization of resilience, emotional abilities can be considered to be crucial factors in internal resilience. They develop in a social context, by social training and as a result of one's own experience (Matczak, 2004) or through parental attitudes and reactions (Marcysiak & Wasilewska, 2009; Martowska, 2009; Piekarska, 2004) and the family system (Martowska, 2007).

Emotional abilities were proposed by Mayer and Salovey (1997) to be components of emotional intelligence. These authors list four main groups of emotional abilities: (a) the ability to recognize emotions, (b) the ability to use emotions to support thinking, (c) the ability to understand emotions and to possess emotional knowledge, and (d) the ability to manage emotions reflectively.

A high level of emotional intelligence does not mean that an individual will not experience negative emotions, for example, that he or she will not experience sadness or regret when the close relationship will end or that he or she will not feel angry being deceived, or that he or she will not be terrified hearing a diagnosis of a life-threatening illness. Difficult, stressful situations and negative emotions arise in the life of every human being, regardless of his or her emotional intelligence level. However, the level of emotional intelligence can influence how an individual perceives difficult situations and how he or she copes with negative emotions occurring at that time. It can also determine whether a person will feel overwhelmed by negative emotions and a difficult event or whether he or she will view them as a challenge and will be able to take effective action leading to regain the balance. According to Salovey et al. (1999), people with a high level of emotional intelligence cope better when they are faced with difficulties. This is possible because they „accurately perceive and appraise their emotional states, know how and when to express their feelings, and can effectively regulate their mood states" (p. 160). Individuals with high emotional intelligence more frequently perceive stressful situations as a challenge than as a threat (Matthews et al.,

2002). They have a greater sense of self-efficacy (Salovey et al., 2001). They can also choose and change coping strategies more flexibly in accordance with situational demands (Davis & Humphrey, 2012). Emotional intelligence can be viewed as a resource playing an important role in difficult, stressful situations. Its high level may have positive health implications (e.g., Schutte et al., 2007). It can also be helpful in reducing stress associated with coping with illness, especially of a chronic or life-threatening nature.

The current study concerns two emotional abilities that are components of emotional intelligence according to Mayer and Salovey's (1997) theory, that is, the ability to recognize emotions in others from facial expressions and the ability to understand emotions. It can be assumed that the level of these abilities can affect the intensity of experienced stress both directly and indirectly. Emotions are an information source, an alarm system available to everyone from birth (Salovey & Mayer, 1990). They provide important information on one's own and other people needs, and on significant changes in the environment. Emotions also help identify priorities. The ability to recognize emotions in others allows for obtaining information about another person's emotional state or the quality of relationship with this person. This enables the evaluation, for example, whether the relationship is satisfying for both or whether it requires a "repair." For instance, an individual perceives the content of the face of the interlocutor, so this is an information that the interaction is correct and there are no interfering factors. On the other hand, if he or she sees annoyance or anger on the face of another person, this can be a signal that something bad happens in this relationship. For example, important needs of the other person could have been infringed, therefore, appropriate action should be taken to avoid conflict escalation. An individual with a low ability to recognize emotions in other people may not notice the difficulties that arise in interpersonal relationships, thus not responding in time. As a consequence, a serious interpersonal conflict may arise, causing the experience of high stress. A low level of ability to identify emotional states can also lead to a mistaken perception of others' emotions and an attribution to them of feeling that they do not experience. The mere misidentification of emotions in others can be a source of numerous conflicts in interpersonal relationships (Fitness, 2001) and lead to stress

experienced for this reason. High emotion recognition ability can contribute to reducing stress also because it facilitates choosing a person who can provide social support, which is important and helpful in difficult and stressful situations (cf. Salovey et al., 1999).

Individuals with a high level of emotion recognition and emotion understanding can identify and understand the causes of difficulties in their emotional life. They can also recognize and understand emotions experienced by others and are able to predict their emotional reaction to their own behaviour. Thus, such individuals have the opportunity to choose more effective coping strategies. Moreover, knowing the nature of emotion, they know that difficult, stressful situations are a natural, part of life and are temporary (Gohm et al., 2005). The abilities to recognize and understand emotions can lead to the perception of oneself as competent in shaping interpersonal relationships (Gohm et al., 2005), which can translate into a sense of control over one's own life. Such a person will not feel helpless or overwhelmed with negative emotions and problems. This can also reduce the stress perceived in difficult situations.

The main aim of the current study was to examine the relationship between emotional abilities (emotion recognition and emotion understanding) and perceived stress. As gender differences in the association between ability emotional intelligence and various aspects of functioning were observed in earlier studies, it can be expected that similar differences will occur in the relationship between emotional abilities and perceived stress. The results of the earlier studies indicated that only in men, the high level of ability emotional intelligence translates into better adaptation (e.g., Brackett et al., 2004), including lower depression (Salguero et al., 2012) and stronger resistance to stressors (Schneider et al., 2013).

The following hypotheses have been formulated:

1. There is a relationship between emotional abilities (emotion recognition and emotion understanding) and perceived stress. High level of emotional abilities is associated with lower perceived stress.

2. There are gender differences in the relationship between emotional abilities and perceived stress. The association is stronger in men than in women.

Method

Participants and Procedure. The sample included 268 adults (128 women and 140 men) aged 20–58 years (M = 29.82, SD = 8.48). Women were 20-52 years old (M = 27.29, SD = 7.38), and men were 21–58 years old (M = 32.15, SD = 8.88). Both students and nonstudying participants were recruited. The participants had a higher or secondary education. The study was conducted individually and anonymously. All of the participants were informed that the study was conducted for scientific purposes and the results obtained by them will not be available to third parties. They were also informed of their right to withdraw from the study at any time without any negative consequences. Verbal informed consent was obtained. The participants were asked to read the instructions in the test booklets and to provide honest answers to all questions.

Measures. Emotional abilities were measured by The Emotional Intelligence Scale – Faces (SIE-T; Matczak et al., 2005) and The Emotion Understanding Test (TRE; Matczak & Piekarska, 2011).

The SIE-T measures the ability to recognize emotions based on facial expressions. This ability is a component of emotional intelligence in Mayer and Salovey's (1997) model. The test consists of 18 photos of female and male faces. Six emotion names are provided for each photo. The participant's task is to determine which of the given emotions is expressed on the face of the person in the photo. The participants respond by marking one of the following answers: *expressed – not expressed – difficult to say*. The scores in the SIE-T range from 0 to 108.

The TRE is used to assess the emotion understanding ability, which is a component of emotional intelligence in Mayer and Salovey's (1997) model. The TRE consists of 5 parts. In Part 1, participants order the given emotions in terms of their intensity. In Part 2, they indicate the emotion opposite to the given ones. In Part 3, they choose an emotion that is an element of the given emotion. In Part 4, they determine the emotion which will appear in the given situation. In Part 5, they indicate what conditions must be fulfilled in order for the given emotion to appear in the described situation. In Parts 2–5, participants choose one correct answer from the four given choices. The maximum score in the TRE is 30 points, and the minimum is 0 points.

Subjectively perceived stress was measured by the Perceived Stress Scale-10 (PSS-10) developed by Cohen et al. (1983) in the Polish adaptation by Juczyński and Ogińska-Bulik (2009). The PSS-10 measures the stress perceived over the last month. The PSS-10 consists of 10 items. The participants determine on a 5-point scale (0 – *never;* 4 – *very often*) how often they thought and felt in a given way. The scores in the PSS-10 range from 0 to 40.

Results

Preliminary Analyses. Student's *t* test was used to compare the scores of women and men (see Table 1). To assess the effect size, Cohen's *d* was calculated.

Table 1

Gender Differences in the Measured Variables

Variable	Women		Men		Student's *t*
	M	*SD*	*M*	*SD*	
Perceived stress	18.72	6.45	17.19	6.81	1.889^{t}
Emotion recognition	75.77	8.61	72.61	11.53	2.514*
Emotion understanding	19.05	3.44	17.81	3.67	2.845**

* $p < .05$; ** $p < .01$; ^{t} $p < .06$

The results showed that women, as compared to men, had a significantly higher level of emotion recognition (d = 0.31) and emotion understanding (d = 0.35). They also reported higher perceived stress than did men, though at a level of statistical tendency (d = 0.23). The effect sizes were small and indicate that gender explains 2% of variance in emotion recognition, 3% of variance in emotion understanding, and only 1% of variance in perceived stress.

The association between emotion recognition and emotion understanding was also examined. The Spearman's ρ correlation coefficient was 0.22, $p < .05$ in women and 0.43 $p < .001$ in men. The relationship between emotional abilities was stronger in men than in women, $z = 1.89$, $p < .03$, one-tailed test.

Emotional Abilities and Perceived Stress. To verify the hypothesis about the relationship between emotional abilities and perceived stress, Spearman's ρ correlation coefficients and one-way

analyses of variance (ANOVA) were calculated. According to the hypothesis, gender differences in the association between perceived stress and emotional abilities were expected. Therefore, the correlation coefficients were calculated separately in women and men (see Table 2).

Table 2

Spearman's ρ Correlation Coefficients Between Emotional Abilities and Perceived Stress

	Emotion recognition		Emotion understanding	
	Women	Men	Women	Men
Perceived stress	−0.17[t]	−0.09	−0.01	−0.18[*]

[*] $p < .05$; [t] $p < .06$

A statistically significant correlation between emotion understanding and perceived stress was found in men, though not in women. This indicates that in men, a high level of emotion understanding ability is related to a small degree to lower perceived stress. The association between emotion recognition and perceived stress did not reach statistical significance. In women, there was only a weak, negative correlation at a level of statistical tendency. This suggests that in women, emotion recognition ability is linked to subjectively perceived stress to a small degree at a level of statistical tendency.

Fisher's test was used to test the differences in the correlation coefficients obtained in men and women. At a level of statistical tendency, the correlation between emotion understanding ability and perceived stress was stronger in men than in women, $z = 1.37$, $p < .085$, one-tailed test.

In order to carry out the one-way ANOVA, the sample was divided into three groups based on the level of perceived stress. The division criterion was 0.5 *SD*s across the sample. Participants reporting low perceived stress (< −0.5 *SD*) were included into Group 1, participants with moderate perceived stress were included into Group 2, and participants reporting high perceived stress (> 0.5 *SD*) − into Group 3. Then, it was tested whether these groups differed in the level of emotional abilities. As different correlations between emotional abilities and stress were obtained in women and men, the analyses

were conducted separately for each gender. The obtained results are presented in Table 3.

Table 3

Emotional Abilities in Women and Men Differing in Perceived Stress

	Perceived stress	Women				Men			
		M	*SD*	*F*	*p*	*M*	*SD*	*F*	*p*
Emotion recognition	Low	77.84	7.54			73.08	9.44		
	Moderate	75.75	9.11	2.041	.134	73.83	12.14	1.006	.347
	High	74.04	8.73			70.61	13.02		
Emotion understanding	Low	19.39	3.12			18.39	3.09		
	Moderate	18.75	3.16	.354	.702	18.52	3.61	6.083	.003
	High	19.04	3.97			16.13	3.97		

The results of the NIR post hoc test indicated that women with low and high perceived stress differed in the level of emotion recognition ability. Women reporting low perceived stress scored higher on emotion recognition than did women with high perceived stress (mean difference: 3.80, $p < .05$). The results of the one-way ANOVA indicated that men with low, moderate, and high perceived stress differed in the level of emotion understanding ability. The NIR post hoc test showed that men reporting low or moderate perceived stress scored higher on emotion understanding compared to men with high perceived stress (mean difference: 2.26, 2.39; $p < .01$, respectively). The observed differences are shown in Figures 1 and 2. However, there were no significant differences in the level of emotion recognition ability between men differing in perceived stress and in the level of emotion understanding ability between women differing in perceived stress.

Discussion

The main aim of the present study was to examine whether the abilities to recognize and understand emotions are related to perceived stress. Besides the verification of the main hypothesis, preliminary

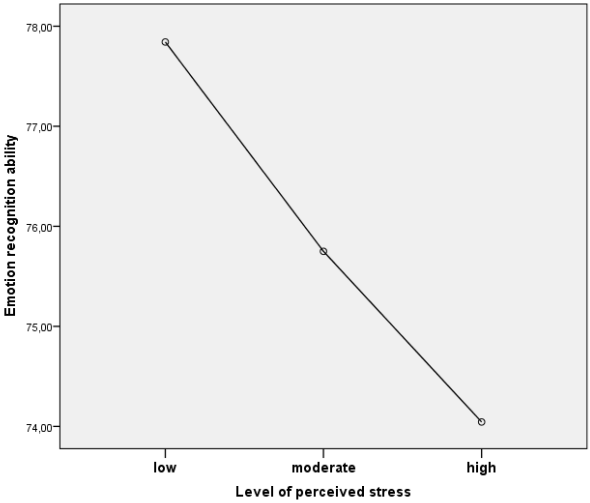

Figure 1. Emotion recognition ability and perceived stress in women.

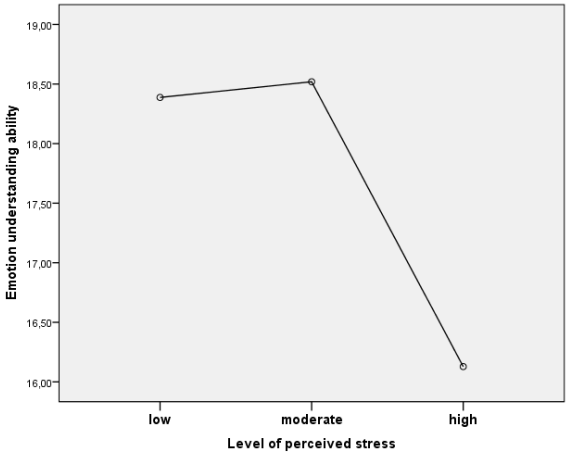

Figure 2. Emotion understanding ability and perceived stress in men.

analyses were also carried out. They indicated that women, as compared to men, have higher level of emotional abilities (emotion recognition and emotion understanding). These differences were also frequently observed in previous studies (e.g., Day & Carroll, 2004; Knopp, 2012; Matczak & Piekarska, 2011; Matczak et al., 2005; Siegling et al., 2012).

There are numerous reports of studies showing that women experience more stress compared to men (e.g., Leventhal et al., 2017; Matud, 2004; Plopa & Makarowski, 2010). These differences are explained by multiple social roles fulfilled by women (e.g., mother, wife, employee) and higher exposure to violence and discrimination as compared to men. It is often pointed out that women, as compared to men, can perceive different life difficulties as more stressful. They also tend to have a stronger emotional engagement in the affairs of their significant others. However, in the sample from the current study, the gender differences in perceived stress were only observed at a level of statistical tendency - women showed only slightly higher scores than men. The lack of significant differences observed in the current study may be caused by the specificity of the sample. It is worth noting that, in comparison with the Polish standardization sample of the PSS-10 (Juczyński & Ogińska-Bulik, 2009; the mean score in the normalization sample of healthy subjects: M = 16.62), men and women in the current study reported higher levels of stress (17.19 and 18.72, respectively).

The preliminary analyses also tested for a link between emotional abilities: emotion recognition and emotion understanding. The observed low and moderate correlations are in accordance with the results of earlier studies (Matczak & Piekarska, 2011; Matczak et al., 2005).

According to the main hypothesis, high level of emotional abilities was expected to be associated with lower perceived stress. The obtained results confirmed this hypothesis in part. They simultaneously suggest the existence of gender differences. In men, perceived stress was associated only with emotion understanding ability. Men reporting high perceived stress achieved lower emotion understanding scores compared to men reporting low or moderate perceived stress. This finding suggests that a high level of emotion understanding ability can be one of the factors contributing to

perceiving lower stress by men. Thanks to the ability to recognize and understand sources of emotion in oneself and in others, and thanks to the knowledge of emotions, the stressful situation and emotional states can be more understandable for men. Thus, the difficult, emotogenic situations may be perceived as less stressful and less overwhelming. A high ability to understand emotions and emotogenic situations can also foster a sense of competence (Gohm et al., 2005) and a sense of control over one's own life. Knowledge of emotions can also be useful in attributing meaning to stressful situations. The perception of stressful life events as controllable, comprehensible, and meaningful are parts of the sense of coherence (Antonovsky, 2005; Plopa & Makarowski, 2010; Terelak, 2001, 2008). A strong sense of coherence has a mobilizing effect in a stressful situation and makes the situation a challenge rather than a stressor (Terelak, 2001, 2008). Perhaps a high level of emotion understanding ability is associated with a strong sense of coherence, and in this way translates into lower perceived stress in men.

Resources in the form of emotion understanding ability can be associated with lower perceived stress also through using adaptive coping strategies. It is believed that people with a high level of emotion understanding ability prefer to choose task- and emotion-focused coping strategies that foster adaptation, for example, planning and seeking social support, and will avoid emotion-focused strategies that are not adaptive, for example, rumination (Lyons & Schneider, 2005). Indeed, in men, emotion understanding ability is associated with using of the coping strategies that facilitate adjustment, that is, active coping, planning, and positive reinterpretation, and avoiding the use of strategies considered as less adaptive, that is, denial, behavioural disengagement, or alcohol-drug disengagement (Piekarska, 2015). Referring to Frijda's (1988) law of the situational significance, it can be assumed that cognitive reinterpretation of an emotogenic situation is the most effective coping strategy (Maruszewski, 2008). The current literature draws attention to the important role of meaning-focused coping (Heszen, 2013; Ogińska-Bulik, 2013; Ogińska-Bulik & Juczyński, 2008). Its role is to attribute meaning to stressful events and to notice positive consequences of these situations, thus arousing positive emotions (Folkman & Moskowitz, 2006). Positive reinterpretation undoubtedly belongs to

such strategies (Ogińska-Bulik, 2013; Ogińska-Bulik & Juczyński, 2008) and it is related to high level of emotion understanding ability in men (Piekarska, 2015).

In women, emotion recognition ability was negatively and weakly related to perceived stress at a level of statistical tendency. An intergroup comparison indicated that women perceiving low stress had significantly higher emotion recognition ability compared to women perceiving high stress. The experience of low stress can be a consequence of an accurate recognition of other people's emotional states, which can contribute to fewer interpersonal conflicts. As Lyons and Schneider (2005) noticed, emotion recognition plays an adaptive role in stressful situations. The accurate perception of others' emotions can lead to focusing one's attention on the problem source and a possible attempt to change it. A high level of emotion recognition ability can also lead to a sense of self-efficacy and control in a stressful situation, and thus, reduce perceived stress. The ability to accurately perceive emotions in others can also facilitate the choice of a person who will be ready to listen with openness and empathy, and will be able to provide support in a difficult situation. Women are more likely than men to seek social support (e.g., Rzeszutek et al., 2017). In women, social support plays an important role in coping with difficult situations and is associated with fewer symptoms of trauma (Oniszczenko et al., 2016). In women, the ability to recognize emotions in others is related to such coping strategies as seeking instrumental and emotional social support (Piekarska, 2015), as well as less frequent coping through denial (Piekarska, 2015). It can be assumed that the link between emotion recognition ability and perceived stress is not only direct, but is also mediated through the use of appropriate coping strategies.

It is worth considering why the correlation in women was observed only at a tendency level. Many studies indicate that women recognize emotions in others better than do men and perceive very subtle signs of emotional expressions (e.g., Fitness, 2001). However, a very high level of emotion recognition ability may not always have positive implications. On the contrary, in certain situations, very accurate peception of others' emotions can lead to high stress in interpersonal relationships. This can happen when a woman sees even the most subtle and hidden expression of negative emotions, such as anger,

rejection, or contempt. The more important and closer is the relationship with a person showing negative emotions, the higher is the experienced stress. It is assumed that women, in comparison to men, pay more attention to emotions expressed by others (e.g., Hall & Halberstadt, 1994; Mayer et al., 1999). This might explain why the relationship between emotion recognition ability and perceived stress, although weak and only at a tendency level, was found only in women.

However, in men, perceived stress was associated only with emotion understanding ability. This result suggests that men can use emotion understanding ability to reduce perceived stress. This may be due to men's preferred rational thinking, which requires engaging cognitive abilities (Sladek et al., 2010). As indicated by previous studies, emotion understanding ability compared to other emotional abilities, is most closely related to general intelligence and reasoning (e.g., Mayer et al., 2001).

The results of the current study suggest that there are gender differences in the relationships between the level of emotional abilities (emotion recognition and emotion understanding) and perceived stress. This suggests that emotional abilities may play a different role in stressful situations in women and men. Similar gender differences may also occur in other aspects of functioning. Therefore, it is reasonable to take into account gender in future studies on emotional intelligence. This will make it possible to better understand the role of emotional abilities in human life.

The results of the current study indicate that emotional abilities are associated with lower perceived stress. High level of emotional abilities may cause difficult situations to be perceived as less stressful. It can be also helpful by reducing experienced stress indirectly, for example, by influencing the choice of appropriate coping strategies. Although the observed associations were weak, emotional abilities can be viewed as personal resources which are worth developing and which can have positive implications for health, health behaviours, and coping with severe illness.

Summary

Chronic stress may have negative health implications. On the other hand, coping with illness, especially chronic illness, often leads to the experience of intense stress. Therefore, it seems important to identify

factors which can contribute to better coping skills and experiencing less severe stress. Emotional abilities can be viewed as resources playing an important role in stressful situations. The present study examined the relationship between two emotional abilities (emotion recognition and emotion understanding) and perceived stress. The analyses were conducted on a sample of 268 adults (128 women and 140 men). Stress perceived in the last month was assessed by the PSS-10. The SIE-T and the TRE tests were used to measure emotion recognition ability and emotion understanding ability. The results showed gender differences in the relationship between emotional abilities and perceived stress. This suggests that particular emotional abilities may play different roles for functioning in women and men. In order to better understand the significance of emotional abilities in human functioning, gender should be taken into account in future research in this area.

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