

Mindfulness skills in individuals with borderline personality features: Roles of impulsivity and rejection sensitivity

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Suggested Citation:

Emiral-Coskun, E. & Egeci, I. S. (2017). Mindfulness skills in individuals with borderline personality features: Roles of impulsivity and rejection sensitivity *Global Journal of Psychology Research: New Trends and Issues*. 7(4), 142-154.

Received July 12, 2017; revised October 11, 2017; accepted December 21, 2017.

Selection and peer review under responsibility of Prof. Dr. Tulay Bozkurt, Istanbul Kultur University, Turkey.

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Abstract

The current study explores whether mindfulness mediates the relationships between borderline personality features and the facets of impulsivity and borderline personality features and rejection sensitivity. The sample consisted of 419 individuals aged between 20 and 39 ($M = 26.24$, $SD = 4.67$). Data were collected using the Borderline Personality Inventory, Mindful Attention Awareness Scale, Urgency, Premeditation, Perseverance, and Sensation-Seeking Impulsivity Scale, and rejection sensitivity questionnaire. Mediation analysis of the data was conducted using the PROCESS macro of Hayes. It was found that mindfulness partially mediates the relationship between borderline personality features and urgency ($N = (419)$ $R^2 = (0.22)$, $F = (120.67)$, $p < 0.001$), and borderline personality features and sensation-seeking facets of impulsive behaviours ($N = (419)$ $R^2 = (0.08)$, $F = (36.62)$, $p < 0.001$). The study's findings are discussed in relation to the existing literature.

Keywords: Borderline personality features, mindfulness, impulsivity, rejection sensitivity.

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1. Introduction

According to both the Diagnostic and Statistical Manual for Mental Disorders Fourth Edition Text Revised (American Psychiatric Association, 2000) and the Fifth Edition (American Psychiatric Association, 2013), borderline personality disorder is characterised by a 'pervasive pattern of instability of interpersonal relationships, self-image, and affects, and marked impulsivity that begins by early adulthood and is present in a variety of contexts' (p. 706 for DSM-IV-TR; p. 663 for DSM-5). The features comprising borderline personality are considered as one of the most detrimental combinations to live with (Nakao et al., 1992). It is therefore important to examine the problems of individuals with borderline personality features to gain a comprehensive understanding of their problem areas.

Previous research suggests that a disrupted (Black, 2010; Lowmaster, 2013; Rizvi, 2004) and disintegrated sense of self (Bateman & Fonagy, 2004; Kernberg, 1996) distorted perceptions of both self and others (Arntz, Dietzel & Dreesen, 1999; Clarkin, Yeomans & Kernberg, 2006) negative emotional attributions (Beck, Freeman & Davis, 2004; Feliu-Soler et al., 2013) biased thinking (Renneberg et al., 2012; Tragesser, Lippman, Trull & Barrett 2008) emotion regulation difficulties (Linehan, 1993; van Dijke et al., 2010) and emotion recognition problems (Farrell, 1994) are among the important problems in individuals with borderline personality features. These problems may contribute to mood shifts, relationship problems and negative attitudes about self (Cheavens, Strunk & Chriki, 2012) which may cause impulsive behaviours, feelings of emptiness and perceived rejection (Linehan, 1993).

Furthermore, individuals with borderline personality tend to have a self-concept that leaves them prone to experiencing negative feelings (Winter, Koplun & Lis, 2015). Thus, they report stronger emotional reactivity to daily-life stressors than individuals without borderline personality features (Glaser, 2009), with higher intensity in affectivity, and may make negative attributions about such events than other individuals (Jarnecke, Miller & South, 2015; Perry, Lavori, Pagano, Hoke & O'Connell, 1992). This may help explain why these individuals find daily experiences more stressful.

Individuals with borderline personality features also experience difficulties in everyday activities due to misinterpreting other people and a tendency to behave impulsively (Wupperman, 2006; Wupperman, Fickling, Klemanski, Berking & Whitman, 2013). In addition, they perceive daily hassles as being more intense and frequent than individuals without borderline personality disorder (Jovey & Jackson, 2006), which may cause a tendency to behave impulsively to decrease tension.

Impulsivity is proposed to be a key factor in many disorders, including borderline personality disorder (American Psychiatric Association, 2013), with impulsive behaviour evaluated in terms of the potential of self-harming behaviours like gambling, irresponsible spending, binge eating, substance abuse, unsafe sex and reckless driving. In fact, individuals with borderline personality features are found to have a high risk of acting impulsively (Gagnon, Daelman & McDuff, 2013; Ozdemir, Selvi & Aydin, 2012; Tragesser, Solhan, Schwartz-Mette & Trull, 2007; Wolf et al., 2012).

Although there is no consensus in the literature on a single model of impulsivity, Whiteside and Lynam (2001) analysed the factor structure of the major approaches to impulsive behaviour and, based on the results, developed the Urgency, Premeditation, Perseverance, and Sensation-Seeking (UPPS) model of impulsivity (U for urgency, P for premeditation, P for perseverance and S for sensation-seeking). The model's first component, urgency (also termed as negative urgency), represents the tendency for rash or regrettable actions because of intense negative affect. The second component, lack of premeditation, includes deliberation and the ability to delay actions in order to think more carefully and plan. The third component, lack of perseverance, represents the individual's ability to remain focused without getting bored until a task is completed. The final component, sensation-seeking, is the tendency to seek excitement and adventure.

It has been argued that some impulsivity components of the model play an important role in explaining borderline personality features (Tragesser & Robinson, 2009; Whiteside & Lynam, 2001). One of the most relevant components is the tendency for rash or regrettable actions because of intense negative affect (Boen et al., 2015; Hochhausen, Lorenz & Newman, 2002; Peters, Upton & Baer, 2013; Whiteside & Lynam, 2001; Whiteside, Lynam, Miller & Reynolds, 2005; van Reekum, Links & Fedorov, 1994) while self-regulatory problems are suggested as the underlying cause of impulsivity (Sansone & Wiederman, 2013). Thus, impulsivity is an expected outcome, given the intense negative affect and problems in self-regulation.

Evidence indicates that one of the mechanisms underlying the impulsivity of individuals with borderline personality features may be their intense emotional states and self-regulatory problems, because behavioural inhibition errors are associated with intense emotional states in such people (Jacob et al., 2010). In addition, Gagnon, Daelman and McDuff (2013) found such individuals to have dysfunctional beliefs that are also considered to relate to intense negative affect. Therefore, it has been suggested that exploring these underlying dysfunctional beliefs may help understand impulsive behaviour in individuals with borderline personality features (Gagnon, Daelman & McDuff, 2013).

In contrast, another impulsivity factor, sensation-seeking behaviour, is negatively correlated with affective instability and intense emotions in these individuals (Peters, Upton & Baer, 2013). Peters and her colleagues (2013) therefore suggest that sensation-seeking may function as a protective or adaptive factor regarding high levels of neuroticism in borderline personality, because sensation-seeking is negatively associated with the extraversion personality trait. That is, it can be argued that, because these individuals lack the skills to regulate their intense negative emotions, they may impulsively seek sensation to reduce their tension.

One skill that can be used to regulate intense negative emotions is mindfulness. Mindfulness is intentional, non-judgmental awareness of and attention to the present (Kabat-Zin, 1982), which is considered as an improvable skill (Linehan, 1993). More specifically, being mindful involves individuals being aware of their experience in each moment, but without being under the influence of automatic cognitions and behaviours, so that they are open to all the experience of the present (Teasdale, 1999). Mindfulness thus focuses on keeping one's consciousness alive to present reality (Brown, Ryan & Ceswell, 2007); so it can be argued that mindfulness is a skill that can be used to increase attunement, connectivity, connection to the environment and feelings of closeness (Kabat-Zinn, 1993).

In other words, if individuals learn to be attentive to the moment instead of acting in accordance with mood-activated automatic thoughts, they can easily regulate their emotions, become more tolerant of stress, and in turn may improve their relationships (Wuppermann, Neumann & Axelrod, 2008). In particular, mindfulness may help reduce the impulsivity of individuals with borderline personality features, who have difficulties such as regulating their emotions.

Among other areas, mindfulness-related research has indeed focused on impulsivity, showing that individuals tend to behave less impulsively as their mindfulness levels increase (Bowlin & Baer, 2011; Peters, Erisman, Upton, Baer & Roemer, 2011; Wupperman, 2006) and exhibit less trait disinhibition (Lattimore, Fisher & Malinowski, 2011). Higher mindfulness levels also decrease the impulsivity that causes alcohol misuse (Murphy & MacKillip, 2012).

Mindfulness-related research findings also suggest that, when individuals with higher affect intensity lack mindfulness skills, they tend to use harmful dysregulated behaviour to prevent potentially upsetting events (Wupperman, Fickling, Klemanski, Berking & Whitman, 2013). However, as they become more mindful, they tend to show less impulsive behaviour, use less passive emotion regulation strategies and score lower on neuroticism (Wupperman, Neumann, Whitman & Axelrod, 2009).

The other important factor causing discomfort and difficulties in the lives of individuals with borderline personality features is sensitivity to rejection. Rejection sensitivity is considered a personality disposition and is defined as a tendency to expect rejection, be over-alert to possible

rejections and overreact to them (Downey & Feldman, 1996). Rejection sensitivity is thus a cognitive-affective disposition that can be expected to affect social relations (Bungert et al., 2015).

Rejection sensitivity has also been conceptualised as a defensive motivational system in which social information is monitored and reactions are formed based on attentional and perceptual processes. After monitoring and forming reactions, a dysregulated response caused by rejection sensitivity results in harmful behaviour, such as high hostility levels and reactive aggression accompanied by contradictory behaviours like both pushing and pulling, motivated by a fear of rejection in romantic relationships (Romero-Canyas, Downey, Berenson, Ayduk & Kang, 2010).

The relationships of individuals with high sensitivity to rejection are more prone to break-ups, with higher relationship erosion than for individuals with low sensitivity to rejection (Downey, Freitas, Michaelis & Khouri, 1998). A lack of problem-solving skills in individuals with high sensitivity to rejection may cause their partner's negative responses and their own perception distortions regarding the relationship. In addition, in romantic relationships, individuals with high sensitivity to rejection feel more insecure, less satisfied and are more prone to overstate their partners' desires to leave the relationship than individuals with low rejection sensitivity (Downey & Feldman, 1996).

According to DSM-5, individuals with borderline personality disorder make frantic efforts to avoid real or imagined abandonment (American Psychiatric Association, 2013). Given this vulnerability, such individuals share similarities with those with high rejection sensitivity, so they can be expected to experience similar relationship problems. Downey and Feldman (1996) indeed found that individuals with high rejection sensitivity present behaviour patterns like avoidance of possible abandonment and problematic issues in their close relationships. In addition, compared to individuals without borderline personality features, they are also high in rejection sensitivity, evaluate people as less trustworthy (Miano, Fertuck, Arntz & Stanley, 2013), have lower self-esteem (Bungert et al., 2015) and low executive control (Ayduk et al., 2007).

Rejection sensitivity may even cause strong pain experience. Bungert et al. (2015) found that individuals with borderline personality disorder tend to experience rejection pain physically instead of psychologically with a higher sensitivity towards rejection, in contrast to individuals without borderline personality features. This also demonstrates the importance and self-destructive effect of rejection sensitivity in individuals with borderline personality features.

Mindfulness deficits are associated with heightened sensitivity to rejection (Velotti, Garofalo & Bizzi, 2015). Developing mindfulness skills may help eliminate factors related to high rejection sensitivity in individuals with borderline personality features. As they become more aware of their inner experiences, they may become less distressed by them and accept them non-judgmentally (Huss & Baer, 2007). With higher mindfulness levels and stronger connections with reality, these individuals may reduce their self-destructive behaviours and increase their emotion regulation (Feliu-Soler et al., 2014), which could prevent interpersonal problems and reduce rejection sensitivity.

Developing mindfulness skills may be an effective mechanism for individuals with borderline personality features to regulate their sensitivity to rejection. Previous research using a community sample suggest that, as individuals become more non-judgmental about their inner experiences, they become less sensitive to rejection, which may indicate a reduced tendency for anxiousness as the individuals become more mindful (Peters, Eisenlohr-Moul & Smart, 2015).

Wupperman Neumann, Whitman and Axelrod (2009) also explored the role of mindfulness in borderline personality, specifically interpersonal functioning, impulsive behaviour and emotion regulation abilities. They found that individuals tend to be more effective in interpersonal problem solving, show less impulsive behaviour, use less passive emotion regulation strategies and score lower on neuroticism as their mindfulness levels increase. Even after controlling these defining features of borderline personality, mindfulness continued to predict borderline personality features, from which it can be concluded that mindfulness deficits may play a unique underlying role regarding problems related to borderline personality features.

Wupperman (2006) suggests that when individuals experience an inability to manage interpersonal relationships effectively, they feel abandoned or rejected. This rejection may lead to elevated emotional reactions that interfere with problem-solving abilities and cause impulsive or self-destructive behaviour. These elevated emotions make it harder to regulate affection – which is already dysregulated – for individuals with borderline personality features. Related to this, negativity in interpersonal problems may increase negative feelings regarding the self, which can create a loop by triggering difficulties in regulating emotions (Brown & Ryan, 2003).

According to Linehan (1993), because of the difficulties experienced in managing and handling their emotional experiences, individuals with borderline personality features tend to behave impulsively and become more sensitive to possible rejection. On the other hand, these problems may also be due to their tendency to ignore cues related to their self-awareness (Winter, Koplin & Lis, 2015). Thus, if they develop skills to regulate their thoughts and emotions, they may experience an increased sense of comfort and self-confidence, thereby making impulsive behaviour or hypersensitivity to rejection unnecessary.

With mindfulness, individuals can increase their level of attention to their emotions, increase awareness and develop self-acceptance, which may decrease the perceived intensity of negative experiences, and in turn make both external and internal stimuli more bearable (Foa & Kozak, 1986; Hayes & Feldman, 2004; Hunt, 1998; Teasdale, 1999). This may reduce avoidant behaviour, since emotional dysregulation experiences would decrease. Given this background, it is important to understand processes like mindful attention and awareness in the lives of individuals with borderline personality features, particularly concerning impulsivity and rejection sensitivity.

Given that the research reviewed here shows that impulsivity and rejection sensitivity play important roles within borderline personality features, mindfulness may provide a protective factor. It is therefore valuable to study impulsivity and rejection sensitivity within borderline personality features, taking mindful attention awareness as a factor regulating excessive appearance of these problem areas. Higher mindfulness levels may be related to being less sensitive to rejection and behaving less impulsively, despite difficult personality features. The aim of the present study is to explore whether mindful attention awareness skills mediate the relationship between the levels of borderline personality features and impulsivity and rejection sensitivity.

2. Method

2.1. Participants

The sample consisted of 419 participants, with an age range between 20 and 39 ($M = 26.24$, $SD = 4.67$). Of the participants, 70% were female ($N = 292$) and 30% were male ($N = 127$) while 48% were undergraduate students ($N = 202$), 29% graduate students ($N = 120$) and 23% graduates ($N = 97$). Individuals diagnosed with Borderline Personality Disorder or Bipolar Disorder were excluded from the study.

2.2. Instruments

2.2.1. Borderline personality inventory

Borderline Personality Inventory (BPI) (Leichsenring, 1999) is a scale of 53 items with yes/no answers. Higher scores indicate higher levels of borderline personality features. In the Turkish adaptation of the BPI (Aydemir et al., 2006), Cronbach Alpha values for the whole group were 0.92 and 0.84 for individuals with borderline personality disorder diagnosis. The Cronbach Alpha value in the current study was also similar to the original study ($\alpha = 0.88$, $p < 0.05$).

2.2.2. Mindful attention awareness scale

Mindful Attention Awareness Scale (MAAS) (Brown & Ryan, 2003) is a 15-item self-report inventory to investigate people's awareness of the ongoing experiences of everyday life. Responses are made on a 6-point Likert scale. The psychometric properties of the Turkish adaptation of the scale (Çatak 2011) show the scale to be a reliable and valid instrument. The reliability value of the scale in the current study is similar to the Turkish adaptation study ($\alpha = 0.79$).

2.2.3. UPPS impulsive behaviour scale

The original scale, developed by Whiteside and Lynam (2001) (UPPS), comprises 45 items exploring four factors: lack of premeditation, urgency, sensation-seeking and lack of perseverance. Responses are scored on a 4-point Likert-type scale. The Turkish version of the scale, adapted by Yargıç, Ersoy and Oflaz (2011), shows good validity and reliability ($\alpha = 0.85$).

2.2.4. Rejection sensitivity scale

The rejection sensitivity scale, developed in Downey and Feldman (1996), includes 18 items on a 6-point Likert scale to measure generalised expectations and anxiety about whether significant others will meet one's needs for acceptance or will be rejecting. Goncu and Sumer (2011) found that their Turkish adaptation of the scale has parallel constructs in the Turkish sample, based on its factor structure, with an internal consistency of 0.86. The scale's Cronbach Alpha value was also high in the current study ($\alpha = 0.87, p < 0.05$).

2.2.5. Demographical information form

The Informed Consent Form and Demographical Information Form were developed by researchers. The former records basic information about age, education and psycho-medical history. Participants' answers to the informed consent forms were taken before using any other scale.

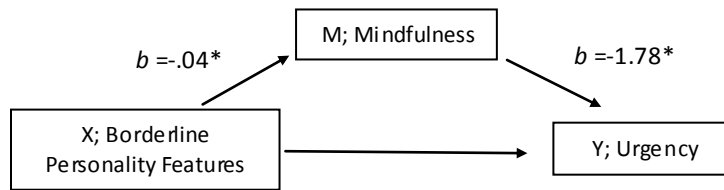
2.3. Procedure

After ethical approval was received from the Bahcesehir University Ethics Committee, the data were collected from a community sample. It took around 50 min for participants to complete all the scales.

3. Results

In order to examine the mediator's role of mindful attention awareness, five separate simple mediation analyses (Hayes, 2013), using the PROCESS add-on for SPSS program model 4 (Hayes, 2013), were conducted on the level of borderline personality features and the five outcome variables were urgency, premeditation, perseverance, sensation-seeking and rejection sensitivity.

Regarding the relationships between borderline personality features and premeditation, perseverance and rejection sensitivity, mindful attention awareness had no mediator role. However, mindfulness partially mediated the relationships between borderline personality features, and urgency and sensation-seeking (see Figures 1 and 2).



Direct effect, $b = 0.40^*$

Indirect effect, $b = 0.33^*$, 95% BCa CI [0.25, 0.41]

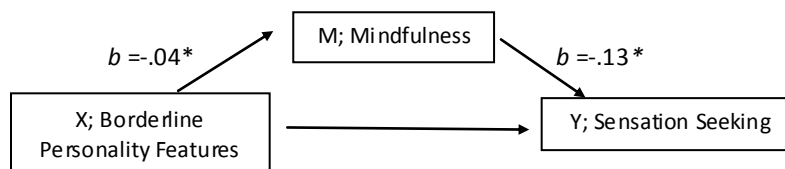
Model summary: $N = (419)$ $R^2 = (0.22)$, $F = (120.67)$, $p < 0.001$

The confidence interval for the indirect effect is a bias corrected and accelerated bootstrapped confidence interval based on 1,000 samples.

$*p < 0.001$

Figure 1. Mindfulness' partial mediation of the relationship between borderline personality features and urgency

To test the mediation effect of mindfulness on the relationship with borderline personality features and urgency, the PROCESS macro (Hayes, 2013) was used with model 4 with 1,000 bootstrapping. Borderline personality features were found to predict individuals' mindfulness ($b = -0.04$, $t(417) = -12.06$, $p < 0.001$, 95% BCa CI [-0.04, -0.03]). In addition, mindfulness is predicted urgency ($b = -1.78$, $t(416) = -3.17$, $p < 0.001$, 95% BCa CI [-2.89, -0.68]) while borderline personality features predicted urgency ($b = 0.40$, $t(417) = 10.99$, $p < 0.001$, 95% BCa CI [0.33, 0.47]). Finally, the mediation effect of mindfulness significantly decreased borderline personality features' ability to predict urgency ($b = 0.33$, $t(416) = 7.95$, $p < 0.001$, 95% BCa CI [0.25, 0.41]). However, borderline personality features still predicted urgency even with the mediation of mindfulness, indicating that mindfulness partially mediates the relationship between borderline personality features and sensation-seeking. The indirect effects with 95% CIs do not contain zero, supporting the partial mediation results (see Figure 1), which suggests that the higher an individual's level of borderline personality features, the lower the level of mindfulness, which in turn increases the likelihood of urgent behaviour. In addition, since there is partial mediation, higher levels of borderline personality features alone, regardless of mindfulness levels, make urgent behaviour more likely.



Direct effect $b = 0.28^*$

Indirect effect $b = 0.20^*$, 95% BCa CI [0.13, 0.29]

Model summary: $N = (419)$ $R^2 = (0.08)$, $F = (36.62)$, $p < 0.001$

The confidence interval for the indirect effect is a bias corrected and accelerated bootstrapped confidence interval based on 1,000 samples.

$*p < .001$

Figure 2. Mindfulness' partial mediation of the relationship between borderline personality features and sensation-seeking

The same model was used to test the mediation effect of mindfulness on the relationship with borderline personality disorder features and sensation-seeking. The findings revealed that borderline personality features predicted mindfulness ($b = -0.04$, $t(417) = -12.06$, $p < 0.001$, 95% BCa CI [-0.04,

-0.03]) while mindfulness also predicted sensation-seeking ($b = -0.13$, $t(416) = -0.17$, $p < 0.001$, 95% BCa CI [-1.62, 1.36]). In addition, borderline personality features predicted sensation-seeking ($b = 0.28$, $t(417) = 6.05$, $p < 0.001$, 95% BCa CI [0.19, 0.37]). Finally, the mediation effect of mindfulness significantly reduced borderline personality features' ability to predict sensation-seeking ($b = 0.20$, $t(416) = 5.11$, $p < 0.001$, 95% BCa CI [0.13, 0.29]). However, although the effect is lessened, borderline personality features can still predict sensation-seeking even under the mediation of mindfulness. That is, mindfulness partially mediates the relationship between borderline personality features and sensation-seeking behaviour. The indirect effects with 95% CIs do not contain zero so this partial mediation was supported (see Figure 2). This suggests that the higher an individual's level of borderline personality features, the lower their level of mindfulness, which in turn increases the likelihood of sensation-seeking behaviour. In addition, since it is a partial mediation, higher levels of borderline personality features alone, regardless of mindfulness levels, increase the likelihood of sensation-seeking behaviour.

4. Discussion

This study investigated whether mindfulness skills mediate the relationships between borderline personality features and impulsive behaviour (urgency, premeditation, perseverance, and sensation-seeking), and between borderline personality features and rejection sensitivity. The results indicate that the direct positive relationship between borderline personality features and urgency and sensation-seeking is weakened by higher mindfulness skill levels. Given that not every individual with high borderline personality features behaves urgently and seeks sensation, mindfulness skills, such as acknowledging emotions and being attentive to the present, explain the difference in showing those behaviours. That is, observed differences between individuals with borderline personality features in showing urgency and sensation-seeking may be due to their different levels of mindfulness skills.

On the other hand, mindfulness skills show partial mediation. That is, the direct relationship between borderline personality features and impulsive behaviour remains independent of mindfulness skill levels. Thus, although mindfulness skills are crucial to recognising emotions and being able to attend to the present experience, they may not guarantee that other skills needed to regulate these emotions are present. Regarding the nature of mindfulness skills, the insufficient regulation skills in these individuals may explain this partial mediation. Feliu-Soler and his colleagues (2013) similarly report that individuals with borderline personality tend to have a more intense negative emotional baseline than other individuals, which may reduce their emotion regulation abilities. Thus, mindfulness skills may decrease the intensity of negative emotions in individuals with borderline personality features, although other skills apart from mindfulness skills may be needed to regulate these emotions in these individuals.

While the relationship between borderline personality features and urgency and sensation-seeking factors of impulsivity is partially mediated by mindfulness skills, the current study failed to show a similar relationship for lack of premeditation and lack of perseverance. That is, individuals with borderline personality features showed premeditation and perseverance facets of impulsive behaviour regardless of their mindfulness level. Whereas previous research indicates that the mindfulness deficits of individuals with borderline personality features explain the tendency for behaving impulsively (Lattimore, Fisher & Malinowski, 2011; Wupperman, 2006), the current study focused on different aspects of impulsive behaviour. More specifically, the urgency and sensation-seeking facets of impulsive behaviour appear to be related to intense emotional states. One fMRI study found that the brain activation was stronger in individuals with high sensation-seeking in the face of intense emotional stimuli than in individuals with low sensation-seeking, while with high sensation-seeking strongly correlated with urgency (Joseph, Liu, Jiang, Lynam & Kelly, 2009). Thus, urgency and sensation-seeking appear to be more closely related to intense negative emotional states, whereas premeditation is related to the ability to delay actions and perseverance is the ability to be present without getting bored until a task is completed, which could be considered as related with behavioural

management rather than emotions. The emotion-related nature of the urgency and sensation-seeking facets may explain the mediation of mindfulness skills. That is, mindfulness skills help individuals to recognise their emotions and be attentive to the present (Kabat-Zin, 1982; Teasdale, 1999), and higher mindfulness levels are expected to be related to managing negative experiences (Wupperman, Fickling, Klemanski, Berking & Whitman, 2013).

Regarding rejection sensitivity, mindfulness skills failed to mediate its relationships with borderline personality features. The literature regarding mindfulness skills and rejection sensitivity suggests that higher levels of mindfulness skills reduce levels of rejection sensitivity (Peters, Eisenlohr-Moul & Smart, 2016; Wupperman, Neumann, Whitman & Axelrod, 2009). The failure of mindfulness skills to mediate this factor may relate to variables such as cultural factors. While most of the research reviewed here examined individualistic cultures (Peters, Eisenlohr-Moul & Smart, 2015; Velotti, Garofalo & Bizzi, 2015; Wupperman, 2006), the current study sampled a collectivist culture. In collectivist environments, relational mobility is low, which makes every relationship more valuable due to their highly stable nature (Sato, Yuki & Norasakkunkit, 2014). Accordingly, if an individual is rejected in one relationship, it is harder to become involved in a new relationship. Therefore, independently of personality characteristics, individuals pay a lot of attention to others' negative feedback with perceived rejection being a source of high anxiety. Thus, because individuals living in a collectivist culture may be more alert to rejection than individuals living in individualistic cultures (Garris, Ohbuchi, Oikawa & Harris, 2010; Sato, Yuki & Norasakkunkit, 2014), higher mindfulness skill levels may not be enough to reduce rejection sensitivity levels in these individuals.

The present study's findings support the theories of Linehan (1993) and Wupperman et al. (2013), which propose that lower mindfulness skills may be the underlying reason for impulsive behaviours in individuals with borderline personality features. This corresponds with the current findings that mindfulness skills may help regulate inner emotional experience, which may in turn make harmful behaviours like sensation-seeking less likely. The suggestion of Lattimore, Fisher and Malinowski (2011), who consider deficient mindfulness skills as related to the tendency of individuals with borderline personality features to behave impulsively, is also provides a valuable argument for future studies.

The current study's different results may also result from community sampling since the participants were not diagnosed borderline personality disorder patients. According to the literature, however, although high levels of borderline personality features is usually defined as a clinical problem, there are also many undiagnosed individuals with severe borderline personality features (Berkson, 1946; Lenzenweger, 2008). As several studies (Ayduk et al., 2007; Jarnecke, Miller & South, 2015; Tragesser, Lippman, Trull & Barrett, 2008; Tragesser & Robinson, 2009), also did, assumed that choosing participants from within the community is useful for understanding these features within a community setting.

In addition, most individuals with severe borderline personality features do not get treatment in hospitals and rarely use clinical help (Berkson, 1946; Lenzenweger, 2008). Since they usually try to find help only as a last resort, most studies have been conducted with such clinical participants. In contrast, the community sample enables us to gain a better understanding of those who have not yet sought any help. It is essential to understand these individuals better to form a treatment plan in accordance with their needs when they ask for help. For this reason, to identify the needs of individuals with borderline personality features, it is important to determine these features.

According to both the current study and previous research, mindfulness is an important skill in individuals with borderline personality features, which can affect particular facets of impulsive behaviours, regardless of cultural differences. Mindfulness skills are essential to decrease the problems resulting from borderline personality features and for developing management strategies for the resulting behaviours. The current findings suggest that mindfulness skills development and emotion regulation training, such as improving coping styles and problem-solving abilities, would be beneficial for individuals with borderline personality disorder features.

The current findings imply that interventions based on mindfulness skills training could focus more on impulsive behaviours due to intense negative affects, such as rash or regrettable actions, or the tendency to seek excitement and adventure. Such training would be particularly beneficial, given that impulsive mistakes are one of the greatest problems affecting the everyday lives of individuals with such borderline personality features.

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