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The severity of Internet addiction risk and its relationship with the severity of borderline personality features, childhood traumas, dissociative experiences, depression and anxiety symptoms among Turkish University Students

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ABSTRACT

The aim of this study was to investigate the relationship of Internet addiction (IA) risk with the severity of borderline personality features, childhood traumas, dissociative experiences, depression and anxiety symptoms among Turkish university students. A total of 271 Turkish university students participated in this study. The students were assessed through the Internet Addiction Scale (IAS), the Borderline Personality Inventory (BPI), the Dissociative Experiences Scale (DES), the Childhood Trauma Questionnaire (CTQ-28), the Beck Depression Inventory (BDI) and the Beck Anxiety Inventory (BAI). The rates of students were 19.9% ($n=54$) in the high IA risk group, 38.7% ($n=105$) in the mild IA risk group and 41.3% ($n=112$) in the group without IA risk. Correlation analyses revealed that the severity of IA risk was related with BPI, DES, emotional abuse, CTQ-28, depression and anxiety scores. Univariate covariance analysis (ANCOVA) indicated that the severity of borderline personality features, emotional abuse, depression and anxiety symptoms were the predictors of IAS score, while gender had no effect on IAS score. Among childhood trauma types, emotional abuse seems to be the main predictor of IA risk severity. Borderline personality features predicted the severity of IA risk together with emotional abuse, depression and anxiety symptoms among Turkish university students.

1. Introduction

1.1. Internet addiction (IA)

The use of Internet is very common all around the world, especially among university students for academic and recreational purposes. The description of Internet addiction (IA) has been figured from the features of both substance dependence (Anderson, 2001) and pathological gambling (PG) (Young, 1996). Nevertheless, excessive Internet use that is being discussed as a behavioral addiction has been called under different names such as computer addiction, compulsive Internet use, pathological or problematic Internet use (PIU) (Young, 1996; Davis, 2001; Shapira et al., 2003; Meerkerk et al., 2009; Ko et al., 2012) and last but not least IA (Holden, 2001; Müller et al., 2012).

Previous studies showed that the rates of IA among college students vary in different countries. These rates were 18.3% in England (Niemz et al., 2005), 12.3–15.3% in Taiwan (Lin et al., 2011; Yen et al., 2009), 21.19% (9.98% for severe IA and 11.21% for mild IA) in China (Yan et al., 2014) and 34.7% in Greece (Frangos et al., 2011). The variations in these results could be due to different methodologies, samples or scale selection. The lack of a standardized definition and diagnostic instruments that show adequate reliability and validity across countries poses a significant limitation in evaluating IA. In Turkey, according to Internet Addiction Scale (IAS), the incidence rates of IA among university students were 12.3% (Kayri and Gunuc, 2009), 9.7% (Canan et al., 2012), and lastly 7.2% (Dalbudak et al., 2013a). As a result, previous studies in Turkey demonstrated that the rates of IA can vary even according to the university that is studied.

1.2. IA, depression and anxiety

In recent years, researchers have suggested that IA may be comorbid with psychological symptoms such as depressive (Young and Rogers, 1998; Ha et al., 2007; Jang et al., 2008; Koc, 2011; Tonioni

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et al., 2012; Müller et al., 2012) and anxiety symptoms (Ni et al., 2009; Kim and Davis, 2009; Koc, 2011; Tonioni et al., 2012; Müller et al., 2012). A systematic review of studies conducted on IA and psychopathology reported that 75% of them found significant associations with depression, whereas 57% revealed significant relationship with anxiety (Carli et al., 2013). A recent study conducted among university students in Turkey suggested that the severity of depression and anxiety symptoms were related with high risk of IA (Dalbudak et al., 2013a). Therefore, negative affect such as anxiety and depression symptoms were suggested as important factors to evaluate when considering IA (Ha et al., 2007; Tonioni et al., 2012; Dalbudak et al., 2013a).

1.2.1. IA and childhood trauma

Sar et al. (2006) suggested that childhood trauma, particularly childhood physical neglect, and emotional and sexual abuse had significant effect on borderline personality disorder (BPD), whereas emotional neglect had significant effect on dissociative disorder among Turkish college students. Childhood traumas were also found to be related with substance addiction (Evren et al., 2006, 2009), as well as behavioral addictions such as gambling (Hodgins et al., 2010). However, there are only three studies that investigated the association between childhood traumas and IA. Zhang et al. (2009, 2012) reported that physical abuse is a possible risk factor for IA among high-school students, whereas Yates et al. (2012) suggested that maltreated youth is at disproportionate risk for IA.

1.2.2. IA and dissociative symptoms

Dissociative symptoms and disorders are common in the general population (Ross, 1991; Akyüz et al., 1999) and might accompany other psychiatric (Sar and Ross, 2006) and personality disorders, particularly BPD (Sar et al., 2006). Dissociative symptoms and disorders may also accompany substance addiction (Karadag et al., 2005; Evren et al., 2007) and behavioral addictions such as pathological gambling (Grant and Kim, 2003) and IA as well (Bernardi and Pallanti, 2009; De Berardis et al., 2009; Canan et al., 2012). The association between IA and dissociative symptoms was noted in both the clinical (Bernardi and Pallanti, 2009) and nonclinical populations (De Berardis et al., 2009; Canan et al., 2012). Canan et al. (2012) suggested that IA was associated with higher levels of dissociative experiences among Turkish university students. Limitation of this study was that although it is a well-known fact that childhood traumatic experiences and borderline personality features (BPF) may be related with dissociative symptoms (Putnam, 1985), the authors did not evaluate these constructs.

1.2.3. IA and borderline personality features (BPF)

A previous study has found a relationship between BPF and contemporary adult disturbance (e.g., dissociative symptoms, drug use, and relational violence) as well as maltreatment history (Carlson et al., 2009). Previous studies have also found a relationship between IA and both unstable interpersonal relationships (Ko et al., 2007; Milani et al., 2009) and impulsivity (Cao et al., 2007; Mazhari, 2012; Dalbudak et al., 2013b), which are commonly seen among those with BPF (Powers et al., 2013). BPF is reported to be related to the onset and the course of substance addiction (Bosch et al., 2001; Preuss et al., 2006). Similarly, individuals with IA appear to have a distinctive personality profile that may indicate BPF (Yang et al., 2005; Dalbudak et al., 2013a). Therefore, the link between BPF and addiction is not surprising because both have negative emotionality and affective instability and both are impulsive, thus accounting for much of the comorbidity between these disorders (Trull et al., 2000).

1.2.4. Childhood trauma, borderline personality features, dissociative experiences, depression and anxiety symptoms

Previous studies showed that traumatic experience during childhood is a strong predictor of psychopathology (Rinne-Albers et al., 2013) and is known to be associated with BPF (Yen et al., 2002; Zanarini et al., 2002), dissociative experiences (Sar et al., 2006), depression and anxiety symptoms (Rucklidge et al., 2006). Sar et al. (2006) suggested that a significant proportion of college students with BPD have a comorbid dissociative disorder. They claimed that lack of interaction between the effects of dissociative disorder and BPD diagnoses for any type of childhood trauma contradicts the opinion that these disorders might be a single disorder (Sar et al., 2006). Thus, although all of these variables are theoretically related, as they are considered as different constructs and since individuals traumatized in childhood may have a high risk of BDF, dissociative experiences, depression and anxiety symptoms, researchers should carefully evaluate these variables together.

As far as we know there is no study that directly evaluates the association between IA and BPF. Since dissociative symptoms, childhood traumatic experiences, depression, anxiety and gender may have important effects on both severity of IA risk and BPF, we wanted to consider BPF together with these variables. We hypothesized that severity of BPF may be related with severity of IA risk even when evaluated together with other related variables.

2. Methods

This study was conducted with volunteers from Turgut Ozal University in Ankara between January 2013 and May 2013. Written informed consent was obtained from the students after the study protocol was thoroughly explained. The Ethical Committee of the University approved the study.

2.1. Participants

A total of 300 university students were randomly selected from the list of 930 students given by the Turgut Ozal University. The inclusion criteria were to use the Internet on a regular basis and willingness to participate in the study. Excluding criteria were rejection to participation, demanding any fee, and incomplete participation to study. According to these criteria 29 university students were excluded from the study. Thus, the study was conducted with a total of 271 university students (110 males and 161 females).

2.2. Assessments

All the students were assessed using a semi-structured socio-demographic form and scales. The questionnaires were completed by students in a classroom setting via paper-and-pencil format.

2.2.1. Internet addiction scale (IAS)

IAS was developed by Nichols and Nicki (2004) to measure the severity of IA and tested on a group of 233 college students. The Cronbach's α of the IAS was 0.95, and the explained variance was 46.50%. The IAS is scored by summing the Likert responses across the 31 items. In a reliability and validity study of the Turkish version of the IAS (Kayri and Gunuc, 2009), the Cronbach's α value was 0.93 in 253 university students. In the present study Cronbach's α was 0.92.

Kayri and Gunuc (2009) suggested that those who score 90 or higher should be considered as IA and that those who score between 81 and 89 should be considered as high risk of IA. Durkee et al. (2012) suggested that to better reflect the taxonomy of Internet users, IA should be assessed as a non-dichotomous categorical variable. Thus, in the present study, the participants were separated into three groups according to IAS score, namely, high risk of IA (IA or high risk group with cut off score of 81), mild risk of IA (scores ranging between 61 and 80) and group without IA risk (scores ranging between 30 and 60). This grouping was also similarly computed in our previous studies (Dalbudak et al., 2013a, 2013b).

2.2.2. Childhood trauma questionnaire (CTQ-28)

The CTQ (Bernstein et al., 1994, 1997) is a retrospective self-report instrument that inquires traumatic experiences during childhood and adolescence. It assesses five types of childhood trauma: emotional abuse, emotional neglect, physical abuse, physical neglect and sexual abuse. CTQ has excellent test–retest reliability and

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convergent validity (Bernstein et al., 1994, 1997). It comprises 28 items. Each item is rated from 1 (never) to 5 (very often). Scores range from 5 to 25 for each type of trauma and within 25–125 for the total trauma score. The Turkish version of CTQ has been used in clinical studies successfully (Sar et al., 2012) and Cronbach's α was 0.81 in the present study.

2.2.3. Dissociative Experiences Scale (DES)

The DES is a 28-item self-report scale (Bernstein and Putnam, 1986). Respondents are asked to rate various dissociative experiences that are occurring in their daily life when they are not under the influence of alcohol or drugs. The Turkish version of the scale has reliability and validity as high as its original form (Yargic et al., 1995) with a good Cronbach's alpha (0.95) in the present study as well.

2.2.4. Borderline Personality Inventory (BPI)

BPI mostly focuses on borderline personality organization and is a 53-item self-rated scale (Leichsenring, 1999) based on Kernberg's (1984) structural borderline organization. In reliability analyses conducted among the Turkish population, Cronbach's alpha coefficient of the whole group (40 patients with BPD, 35 patients with major depressive disorder, 30 patients with schizophrenia and 61 healthy subjects) was 0.92, and for the BPD group it was 0.84. A cut-off point of 15/16 was reported. The Turkish version of BPI, which was found to be reliable and valid, was used in the present study (Aydemir et al., 2006). That is, Cronbach's alpha was 0.89 in the present study.

2.2.5. Beck Depression Inventory–Beck Anxiety Inventory

Depressive symptoms and the severity of depression were evaluated using the Turkish version (Hisli, 1989) of the Beck Depression Inventory (BDI; Beck et al., 1961). Anxiety symptoms and the severity of anxiety were evaluated by the Turkish version (Ulusoy et al., 1998) of the Beck Anxiety Inventory (BAI; Beck et al., 1988). Both scales have been validated on Turkish populations. Cronbach's alphas were 0.89 for BDI and 0.90 for BAI in the present study.

2.3. Statistical analysis

Group differences in demographic variables were computed through chi-square test. In order to compare groups regarding the severity of IA risk with age, dissociative symptoms, borderline personality features, subscales of CTQ, depression and anxiety scores, one-way ANOVA was used. To test the relationship of IAS with BPF, childhood traumas, depression and anxiety scores, Pearson's correlations were used. Univariate covariance analysis (ANCOVA) with IAS score as the dependent variable was used. Fixed factor was gender, whereas covariants were scores of BPI, BDI, BAI, DES and childhood trauma types.

3. Results

Among the university students participated in the present study, the rates of those with high risk of IA, with mild risk of IA and without IA risk were 19.9 ($n=54$), 38.7 ($n=105$) and 41.3 ($n=112$), respectively. The mean age did not differ between the groups (21.63 ± 1.61, 21.71 ± 1.59 and 21.96 ± 1.68, respectively, $F=0.95$, $p=0.39$). Similarly, male/female ratio did not differ in the groups with high risk of IA ($n=21$, 38.9% for males; $n=33$, 61.1% for females), with mild risk of IA ($n=47$, 44.8% for males; $n=58$, 55.2% for females) and without IA risk ($n=42$, 37.5% for males; $n=70$, 62.5% for females, $\chi^2=1.27$, d.f.$=2$, $p=0.53$). In addition, according to cut-off score of 90 from IAS, the rate of IA was 10% among university students. In the IA group there was no significant difference between genders ($n=13$, 11.8%, for males; $n=14$, 8.7%, for females, $\chi^2=0.71$, d.f.$=1$, $p=0.40$). Moreover, there was no difference between genders according to types of Internet activities. Participants reported that the most common reason for using the Internet was for academic activities (40.6%), followed by social networking (25.1%), chat rooms/Internet messaging (16.6%), sending email (4.8), web surfing (4.4%), visiting video sites (3.7%), playing online games (2.6), shopping (1.5%) and gambling (0.7%), respectively (not shown).

The results revealed that physical and emotional neglect scores were higher in the high IA risk group than the group without IA risk. On the other hand, emotional abuse score and total score of CTQ-28 were higher in both high risk and mild risk IA groups than the group without IA risk. BPF, dissociation and anxiety scores were higher in the high IA risk group than in the mild IA risk group and the group without IA risk, whereas these scores were higher in the mild IA risk group than in the group without IA risk. Lastly, depression score was higher in the high IA risk group than in both the mild IA risk group and the group without IA risk (Table 1). Correlation analysis revealed that IAS was positively correlated with BPF, dissociative experiences, emotional abuse, total score of CTQ-28, depression and anxiety scores (Table 2).

In univariate covariance analysis (ANCOVA), IAS score was taken as a dependent variable, whereas gender was taken as fixed factor and scores of BPI, BDI, BAI, DES and childhood trauma types were taken as covariants. The results revealed that BPI, emotional abuse, depression and anxiety scores predicted the IAS (Table 3).

4. Discussion

The rate of IA was 10% in the present study, which was consistent with the previous studies that considered IA dichotomously (IA present or absent) in the analyses and found rates ranging from 7.2 to 12.3 among university students in Turkey (Kayri and Gunuc, 2009; Canan et al., 2012; Dalbudak et al., 2013a).

Table 1
Comparing scale scores according to severity of Internet addiction (IA) risk.

	Severity of IA risk						F	p
	Without IA $n=112$		Mild risk of IA $n=105$		High risk of IA $n=54$			
	Mean	S.D.	Mean	S.D.	Mean	S.D.		
BPI[a]	6.39	5.12	10.57	6.56	13.44	10.07	21.49	<0.001
DES[a]	18.70	9.40	23.20	9.66	29.12	11.39	20.51	<0.001
CTQ-28[b]	34.04	7.23	36.54	5.88	39.17	8.47	10.15	<0.001
Emotional abuse[b]	5.59	1.22	6.54	1.59	6.78	2.28	13.77	<0.001
Physical abuse	5.29	0.956	5.50	1.18	5.74	1.57	2.66	0.072
Physical neglect[c]	7.87	2.26	8.48	1.80	9.15	1.95	7.56	0.001
Emotional neglect[c]	10.13	3.59	10.69	2.63	11.93	3.62	5.58	0.004
Sexual abuse	5.17	0.95	5.34	1.28	5.57	1.27	2.30	0.103
BDI[d]	5.23	6.83	7.60	9.34	17.69	19.31	22.98	<0.001
BAI[a]	8.92	7.53	11.94	7.18	18.11	7.66	27.92	<0.001

[a] High risk of IA > mild risk of IA > without IA.
[b] High risk of IA, mild risk of IA > without IA.
[c] High risk of IA > without IA.
[d] High risk of IA > mild risk of IA, without IA Borderline Personality Inventory (BPI), Dissociative Experiences Scale (DES), Childhood Trauma Questionnaire (CTQ-28), Beck Depression Inventory (BDI), Beck Anxiety Inventory (BAI). Bonferroni correction was made and differences were considered significant at $p<0.01$.

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Table 2
Correlations between scale scores.

$N=271$	BPI	DES	EA	PA	PN	EN	SA	CTQ-28	BDI	BAI
Internet Addiction Scale	0.38*	0.39*	0.35*	0.16**	0.25*	0.19**	0.10	0.28*	0.39*	0.44*
BPI		0.38*	0.43*	0.35*	0.16**	0.16**	0.22*	0.31*	0.24*	0.16**
DES			0.29*	0.25*	0.50*	0.38*	0.20**	0.46*	0.25*	0.42*
Emotional Abuse (EA)				0.56*	0.35*	0.37*	0.47*	0.67*	0.20**	0.26*
Physical Abuse (PA)					0.44*	0.44*	0.54*	0.71*	0.05	0.16**
Physical Neglect (PN)						0.69*	0.32*	0.80*	0.15***	0.23*
Emotional Neglect (EN)							0.39*	0.87*	0.17***	0.19**
Sexual Abuse (SA)								0.62*	0.07	0.08
CTQ-28									0.19**	0.25*

* $p<0.001$.
** $p<0.01$.
*** $p<0.05$. Borderline Personality Inventory (BPI), Dissociative Experiences Scale (DES), Childhood Trauma Questionnaire (CTQ-28), Beck Depression Inventory (BDI), Beck Anxiety Inventory (BAI). Correlation between BDI and BAI: $r=0.46$, $p<0.001$.

Table 3
Univariate covariance analysis (ANCOVA) with Internet Addiction Scale score as dependent variable in university students ($n=271$).

	Type III sum of squares	d. f.	Mean square	F	p
Borderline Personality Inventory	2264.407	1	2264.407	12.467	<0.001[a]
Beck Depression Inventory	1432.378	1	1432.378	7.886	0.005[a]
Beck Anxiety Inventory	2951.490	1	2951.490	16.249	<0.001[a]
Dissociative Experiences Scale	400.725	1	400.725	2.206	0.139
Emotional Abuse (EA)	1341.879	1	1341.879	7.388	0.007[a]
Physical Abuse (PA)	296.457	1	296.457	1.632	0.203
Physical Neglect (PN)	338.473	1	338.473	1.863	0.173
Emotional Neglect (EN)	40.095	1	40.095	0.221	0.639
Sexual Abuse (SA)	126.402	1	126.402	0.696	0.405
Male gender	58.701	1	58.701	0.323	0.570

$R^2=0.355$ (adjusted $R^2=0.330$).

[a] Statistically significant, Fixed Factor was gender, whereas covariants were scores of Borderline Personality Inventory, Beck Depression Inventory, Beck Anxiety Inventory, Dissociative Experiences Scale and childhood trauma types.

According to a recent review, the rate of IA was higher in males than in females in most of the studies (Carli et al., 2013). Nevertheless, consistent with the present study, some studies failed to find this difference between genders in this same review (Carli et al., 2013). Similarly, a previous study, which was conducted among Turkish university students, did not show any difference in the rate of IA between genders (Batıgün and Hasta, 2010). The variations between these findings could be due to different methodologies, samples or scale selection. The reason for not finding a difference in the present study may be that the students included in the study were conservative, as was mentioned in the previous study with a different sample from the same university (Dalbudak et al., 2013a). Consistent with this, there was no difference between genders according to the Internet activity types, which is inconsistent with a previous study (Canan et al., 2012). Also, there was a greater number of female ($n=161$, 59.4%) than male participants in the present study. Female students may have participated in the survey more willingly and completed the questionnaires more carefully, as was suggested in the previous studies (Dalbudak et al., 2013a). Nevertheless, consistent with our hypothesis, the main finding of the present study was that severity of BPF predicted severity of IA together with severity of childhood emotional abuse, depression and anxiety symptoms.

One of the important findings in the present study was that although childhood traumas, namely physical neglect, emotional neglect and emotional abuse were found to be related with the severity of IA risk, the most important one was emotional abuse. This suggests that although most of the studies that evaluated childhood traumas particularly have focused on physical and sexual abuse, it is important to evaluate other childhood trauma types as well when considering IA. These findings are important because, directly or indirectly, childhood traumas can contribute to the formation of other psychopathologies such as depression, anxiety (Hovens et al., 2010), dissociative experiences or disorders (Chu and Dill, 1990; Gershuny and Thayer, 1999; Sar et al., 2006, 2007; Evren et al., 2007), BPF or BPD (Sar et al., 2006; Rademaker et al., 2008). Although the relationship of childhood traumas with substance addiction is well known in the literature (Zlotnick et al., 1997; Dube et al., 2006; Evren et al., 2006, 2007, 2011), there are few studies considering the association between childhood traumas and behavioral addictions such as gambling (Hodgins et al., 2010) and IA (Zhang et al., 2009; Yates et al., 2012; Zhang et al., 2012). Physical abuse was found to be a possible risk factor for IA among Chinese students (Zhang et al., 2009), whereas Yates et al. (2012) suggested that maltreated young individuals are at disproportionate risk for IA. Nevertheless, consistent with the present study, a previous study conducted in Europe revealed that adolescents lacking emotional and psychological support had the highest risk for IA (Durkee et al., 2012). Supporting this finding, Gladstone et al. (2004) pointed out that the significance of emotional abuse as an important development factor was linked with adulthood problems in self-definition and self-worth. The results of the previous studies showed that lower family functioning predicts IA (Ko et al., 2007), whereas a warm family atmosphere is a protective factor against IA among college students (Huang et al., 2009). Furthermore, early emotional abuse may be related to personality dimensions associated with poor impulse control and interpersonal relationships and may increase the risk of emotional and cognitive problems (Rademaker et al., 2008), and vulnerability to severe addiction (Schwandt et al., 2013).

Consistent with the previous studies, severity of depression and anxiety symptoms (Ha et al., 2007; Carli et al., 2013) and dissociative experiences (Bernardi and Pallanti, 2009; De Berardis et al., 2009; Canan et al., 2012), which is known as a maladaptive strategy to alleviate painful emotions in students (Tutkun et al., 2004), were related with the severity of IA. Moreover, previous studies indicated that unstable interpersonal relationships (Ko et al., 2007; Milani et al., 2009) and impulsivity (Cao et al., 2007; Mazhari, 2012; Dalbudak et al., 2013b) were also related with IA as well. Since students with BPF may have unstable interpersonal relationships with others, negative emotions and unstable personality, those with depressive, anxiety and dissociative symptoms, which may be related with emotional abuse, may find it easier to interact online with others in which anonymity can be maintained rather than the engage contact in real life. The reason of this finding may be that students with negative emotions, such as

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anxiety or depression, may use dissociation (Tutkun et al., 2004) and/or the Internet (Gross et al., 2002; Selfhout et al., 2009; Ko et al., 2012) to relieve these emotions both internally and externally. That is, dissociation, which occurs in about two-thirds of people with BPD (Korzekwa et al., 2009), may (at least theoretically) be associated with the unique characteristics of the Internet (e.g., anonymity) (Canan et al., 2012). Thus the Internet may provide an appropriate place for students with BPF to dissociate from, in other words manage with, their negative emotions. Also individuals with IA can lose their control on the Internet use, resulting in impairments in daily functioning, and relationships (Young and Rogers, 1998; Anderson, 2001; Davis, 2001; Ko et al., 2012). Therefore, there could be a bidirectional relationship between IA and BPF. Consistent with the previous studies (Bernardi and Pallanti, 2009; De Berardis et al., 2009; Canan et al., 2012), the severity of dissociative experiences was related with the severity of IA risk, whereas it did not predict IA risk when evaluated together with BPF. In these previous studies childhood traumas and BPF were not evaluated, although they are well known to be related with both severity of IA and dissociative experiences, which may be considered a limitation for these studies. Findings of the present study may suggest that dissociative experiences among those with high IA risk are not a pathological dissociation but a possible psychological defense mechanism that university students with severe BPF use against internal or external stress. Nevertheless, cross-sectional design of the present study makes it impossible to say anything about the direction of the causal relationship.

The present study has several limitations. First of all, university students included in the present study do not represent the whole university students in Turkey. Secondly, all the scales used in the present study were self-rated. Thirdly, since this study was cross-sectional the findings of this study cannot address the causal relationships among the primary constructs of interest.

Notwithstanding these important limitations, this is the first study to directly evaluate the relationship of IA with BPF, while also considering other variables such as childhood traumas, dissociative experiences, depressive and anxiety symptoms. At a minimum, these findings suggest that in order to better understand IA, clinicians must carefully evaluate these variables. Additionally, those university students with higher severity of BPF should be considered a risk group for IA as well as candidates for emotional abuse, and depressive and anxiety symptoms.

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