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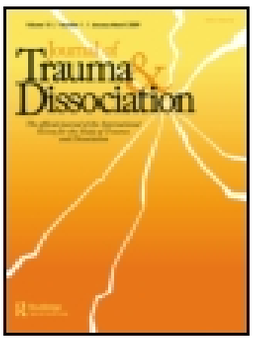

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Awareness of identity alteration and diagnostic preference between borderline personality disorder and dissociative disorders

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ABSTRACT

Aim: This study inquires into identity alteration among college students and its relationship to borderline personality disorder (BPD) and/or dissociative disorders (DDs). Methods: Steinberg Identity Alteration Questionnaire (SIAQ), Childhood Trauma Questionnaire (CTQ), and self-report screening tool of the BPD section of the Structured Clinical Interview for DSM-IV (SCID-BPD) were administered to 1301 college students. Participants who fit the diagnostic criteria of BPD (n = 80) according to the clinician-administered SCID-BPD and 111 non-BPD controls were evaluated using the Structured Clinical Interview for DSM-IV DDs (SCID-D) by two psychiatrists blind to the group membership and scale scores. Results: Test-retest evaluations and internal consistency analyses suggested that SIAQ was a reliable instrument. Of the participants, 11.3% reported a SIAQ score 25 or above alongside some impairment. SIAQ scores differentiated participants who fit the diagnostic criteria for a DD from those who did not. While self-report identity alteration was correlated with all childhood trauma types, clinician-assessed identity alteration was correlated with childhood sexual abuse only. Those who fit criteria for both disorders had the highest identity alteration scores in self-report and clinician-assessment. Although both syndromes had significant effect on self-report identity alteration total scores, in contrast to DD, BPD did not have an effect on the clinician-administered evaluation. Conclusion: An impression of personality disorder rather than a DD may seem more likely when identity alteration remains subtle in clinical assessment, notwithstanding its presence in self-report. Lack of recognition of identity alteration may lead to overdiagnosis of BPD among individuals who have a DD.

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Borderline personality disorder; dissociation; identity alteration; reliability; self-report

The concept of identity covers continuity and psychosocial mutuality as its core features. Erik Erikson (1950/1963), the pioneer of identity studies, stated: "(identity is) … accrued confidence that the sameness and continuity

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prepared in the past are matched by the sameness and continuity of one's meaning for others" or "what (one) appear(s) to be in the eyes of others as compared with what (one) feel(s) (he/she is)." Hence, identity has both interpersonal and individual as well as subjective and objective aspects. Identity is usually conceived as a social phenomenon with cultural, ethnic, religious components rather than as an individual integrative mental capacity that plays a central role in health and disease. Hence, it has been a relatively under-referenced concept in psychiatry and clinical psychopathology.

A disturbance of identity is usually characterized by identity confusion. This is an internal struggle between diverse tendencies of the person (Steinberg, 1994). Such struggle may exceed the limits of identity confusion when aspects of fragmented identity take executive control of mind and behavior episodically. This phenomenon occurs in dissociative disorders of identity. An abrupt transition between distinct personality states ("switching") is one of the hallmarks of Dissociative Identity Disorder (DID). Occasionally, a person may have dissociative amnesia for the altered identity. Passive influence ("made" thoughts, emotions, actions) experiences, or even dissociative hallucinations associated with personality states, may also affect decision-making processes even without overt "switching" (Kluft, 1987). Such interferences cause depersonalization and/or derealization due to temporary lack of ownership (sense of self and agency) of emotions, thoughts, and behavior driven by another personality state (Steinberg, 1994). While this "puppeteering" experience (Kluft, 1991) is typical for the DSM-5 category of other specific dissociative disorder (OSDD) type 1 (subthreshold DID), marked disruptions including some type of dissociative amnesia characterize full-fledged DID (American Psychiatric Association,2013).

In DSM-5, there is a further diagnostic category that explicitly addresses identity disturbance: Borderline Personality Disorder (BPD). For example, the third diagnostic criterion of BPD states: "Identity disturbance: markedly and persistently unstable self-image or sense of self." Wilkinson-Ryan and Westen (2000) identified four identity disturbance factors in BPD: role absorption (in which patients tend to define themselves in terms of a single role or cause), painful incoherence (a subjective sense of lack of coherence), inconsistency (an objective incoherence in thought, feeling, and behavior), and lack of commitment (e.g., to jobs or values). All four factors, but particularly painful incoherence, distinguished patients with BPD. Although sexual abuse was associated with some of the identity factors, particularly painful incoherence, borderline pathology contributed unique variance beyond abuse history to all four identity disturbance factors. However, the potential contribution or even essential role of dissociation in the four factors was not inquired into for this study.

In addition to the wide phenomenological overlap between BPD and dissociative disorders (DDs)(Sar, Akyuz, Kugu, Ozturk, & Ertem-Vehid, 2006; Sar et al., 2003), it is of particular interest that both syndromes are related to

chronic traumatization (e.g., abuse and/or neglect) in childhood (Korzekwa, Dell, Links, Thabane, & Fougere, 2009; Laddis, Dell, & Korzekwa, 2016; Ross, Ferrell, & Schroeder, 2014). Given these commonalities, it is unclear whether this spectrum of psychopathology represents a post-traumatic DD or a personality disorder or both (Meares, 2012). In an earlier study, BPD seemed to be related to childhood abuse and physical neglect, and DDs were related to childhood emotional neglect and minimization of trauma (Sar et al., 2006). Lack of significant statistical interaction between two diagnostic patterns on childhood trauma reports suggested that BPD and DDs might be widely overlapping but distinct post-traumatic response types (Sar et al., 2006).

The present study attempted to inquire the relationship between BPD and DDs in the context of identity alteration. We first tried to apply the psychometric features of the Steinberg Identity Alteration Questionnaire (SIAQ) (Steinberg & Schnall, 2000), which is a self-report instrument. Second, we attempted to gather preliminary data on the possible prevalence of identity alteration in a non-clinical population. Third, we tried to evaluate identity alteration in participants who fit the diagnostic criteria of a DD and/or BPD. To gather information about both objective and subjective aspects of identity alteration, we applied clinician-conducted assessment as well.

Method

The full methodology of this study has been reported in three previous papers (Sar et al., 2006; Sar, Alioglu, & Akyüz, in press; Sar, Alioğlu, Akyuz, & Karabulut, 2014) that addressed the relationship of childhood trauma, dissociative amnesia, depersonalization, and derealization) in relation to BPD and DDs. A summary is provided below.

Participants

Among all students of the Cumhuriyet University in Sivas (Turkey), 1301 (10% of the student population) participants were randomly selected (554 women, 42.6%). In order to gather a sufficient number of participants who fit the criteria of BPD and/or a DD, a relatively large number of students was recruited. These students provided written informed consent following explanation of the study procedures. The study was approved by the Academic Council of the Sivas University Department of Psychiatry.

Instruments

1. The Steinberg Dissociation Questionnaires: They are five self-rating scales that evaluate the severity of dissociative amnesia, depersonalization, derealization, identity confusion, and identity alteration (Steinberg &

Schnall, 2000). These questionnaires are focused on basic dimensions of dissociative psychopathology that are also represented in five subscores of the Structured Clinical Interview for DSM-IV Dissociative Disorders (Steinberg, 1994). A score between 1 and 5 is assigned to each item. Item scores are added up to total scores for each of the five scales. "Normal"' items that are placed among pathological items of the scales do not contribute to the total scores; that is, only a score of 0 is assigned to them at the computation. Reliability and validity of the Turkish version of the Steinberg Depersonalization, Derealization, and Dissociative Amnesia Questionnaires have been demonstrated in separate studies (Sar et al., in press, 2014). The main analysis in the present study was conducted on the Steinberg Identity Alteration Questionnaire (SIAQ) that consists of 13 items and 3 additional questions that inquire into the distress and dysfunctionality caused by the symptoms. Two items covering normal experiences should not be calculated the total score. A total score between 14 and 70 is possible. The unpublished 2002 translation by Vedat Sar was used in this study.

2. Structured Clinical Interview for DSM-IV Dissociative Disorders (SCID-D) is a semi-structured interview developed by Steinberg (1994). To establish the inter-rater reliability of the Turkish version, a study was conducted on 10 videotaped interviews with 5 dissociative and 5 non-dissociative psychiatric patients. The mean Kendall's tau for agreement among the three raters was between 0.78 and 1.00 for severity ratings of dissociative symptoms and 0.76 (range = 0.70–0.86) for total SCID-D score (Kundakci, Şar, Kiziltan, Yargic, & Tutkun, 2014). This rate was 1.0 for identity alteration. In a separate part of the same study involving 34 dissociative and 34 non-dissociative psychiatric clients, the interviewers were able to differentiate the two groups from each other for all participants. Hence, the Turkish version of the instrument is valid and is as reliable as the original form.

3. The Structured Clinical Interview for DSM-IV Personality Disorders (SCID-II) is a semi-structured interview (First, Gibbon, Spitzer, Williams, & Benjamin, 1996). For initial screening, the self-report version of this instrument is used. The Turkish version of the SCID-II had an inter-rater reliability of 0.95 (kappa) for BPD (Coskunol, Bagdiken, Sorias, & Saygili, 1994).

4. Childhood Trauma Questionnaire (CTQ) is a 28-item self-report instrument (Bernstein et al., 1994). Possible scores for each type of childhood trauma range from 1 to 5 with a total score ranging from 5 to 25. There is also a minimization/denial of trauma score with a range of 0 to 3. The Turkish version of the scale is as valid as its original form (Sar, Ozturk, & İkikardes, 2012).

Procedure

This study was originally planned to inquire into the DD comorbidity of BPD (Sar et al., 2006). The self-rating assessment instruments (CTQ, Steinberg Dissociation Questionnaires, and the screening tool of SCID-BPD) were administered to 1301 students by three psychiatry residents in lecture rooms at the university addressing a large group each time. The semi-structured SCID-BPD was administered by a psychiatrist to those participants who had probable BPD in the self-report assessment during a separate session conducted upon invitation. Among these, 111 participants fit the diagnostic criteria of BPD in semi-structured interview. They were invited for a second interview by another psychiatrist to screen for a concurrent DD. Of the invited participants, 31 students did not show themselves for the second interview, Hence, SCID-D was administered to 80 participants who fit the diagnostic criteria of BPD alongside a control group (n = 111). These controls were randomly selected from those students who did not fit the criteria of BPD in the semi-structured assessment with SCID-BPD. Hence, the final diagnoses of BPD and DD were made by separate semi-structured interviews conducted by two experienced psychiatrists, respectively, who were blind to the assessment scores and group membership of the students yielded in stages of the study prior to their session.

Statistical analysis

Beside descriptive statistics (mean, standard deviation, t-test, chi-square test, Kolmogorov–Smirnov test, Pearson correlation tests), stepwise linear regression analyses were conducted in appropriate places as noted throughout the results section below. A principal component analysis with varimax rotation was conducted on scale items. Factor scores were saved for correlational analyses with other variables. A comparison between groups was conducted through one-way variance analysis alongside post hoc analyses (Tukey test) and calculation of main effects of and interactions between fixed factors. In variance analysis, the self-report identity alteration was chosen as the dependent variable and the categories of BPD and DD as fixed factors, while observed power of interaction was calculated as part of estimation of the effect size.

Results

Characteristics of the participants

Mean age of the overall study group (N = 1301) was 20.6 (SD = 1.7 range = 18–29). Among participants who were evaluated by semi-structured interviews (n = 191), 100 (42 women, 42.0%) fit the criteria of either BPD and/or a DD. In the DD group (n = 78), 42 participants fit the criteria of DD not otherwise specified. The

remaining fit the criteria of dissociative amnesia (n = 15), depersonalization disorder (n = 12), or DID (n = 9). Twenty-two (7 women, 31.8%) constituted the "BPD only" group. Those with neither DD nor BPD (n = 91) served as healthy controls (34 women, 37.4%). There was no significant difference in gender distribution between four groups (both DDs and BPD, BPD only, DD only, and healthy controls) ($\chi 2$ = 4.13, df = 3, p = 0.248).

Analysis of reliability

To establish partial construct validity of the scales, Pearson correlations were calculated between each item and item-corrected SIAQ scores. These coefficients ranged between 0.39 and 0.64 in the overall and 0.28 and 0.72 in the DD (n = 78) groups. Cronbach's alpha coefficient calculated for the sample as a whole (0.87) and for the DD group (0.85). Gutmann's split-half score was 0.85 and 0.86, respectively. These data confirmed that SIAQ was an internally consistent instrument.

Test-retest reliability was calculated using Pearson correlations from the scale scores of 21 college students who completed the scale on two occasions separated by an interval of three weeks. For the total score, the overall test–retest correlation was r = 59.0 (p = 0.013). Thus, the SIAQ scores were moderately stable over an interval of three weeks. This seems to be due to the non-clinical and highly functional quality of the studied population which probably concentrated the scores in a narrow range of severity.

In the overall study group (N = 1301), there was no significant correlation between SIAQ score and age (rho = 0.03, p = 0.364) and economic status (rho = −0.03, p = 0.311). Nor was here a significant difference between men (mean = 18.3, SD = 6.4) and women (mean = 18.3, SD = 6.1) (Kruskal–Wallis p = 0.694).

Analysis of concurrent validity

Comparison with other measures

Participants who fit the criteria of a DD (n = 78) had higher SCID-D identity alteration (M = 1.4 SD = 0.7) scores compared to those who did not (n = 113 M = 1.0 SD = 0.0) (Kruskal–Wallis p = 0.001). Their SIAQ scores also differed (M = 25.6 SD = 7.7 versus M = 18.3 SD = 5.8) (Kruskal–Wallis p = 0.001). SIAQ and SCID-D total scores were significantly correlated. There was a modest but significant correlation between SIAQ and SCID-D identity alteration score (Table 1). SIAQ score was also correlated with other Steinberg self-rating dissociation questionnaires in the overall group; that is, dissociative amnesia (rho = 0.60), depersonalization (rho = 0.75), and derealization (rho = 0.73), all significant at the level of p = 0.001. These correlations were significant in the participants evaluated by semi-structured

Table 1. A comparison between participants according to their dissociative disorder (DD) and borderline personality disorder (BPD) status (ANOVA, df = 187; 3). The groups were composed after the semi-structured evaluation by the study clinician (n = 191).

	Diagnostic groups						
	DD +BPD	BPD only	DD only	Healthy controls	"p"	Main effects interaction	DD BPD interaction
	N = 58	*N* = 22	*N* = 20	*N* = 91			
Scale	Mean	Mean	Mean	Mean	Kruskal		η^2 η^2 η^2
Scores	*SD*	*SD*	*SD*	*SD*	Wallis	DD BPD	o.p. o.p. o.p.
Steinberg identity alt.	27.3	22.2	20.7	17.4	0.001	*F* = 14.71 *F* = 27.37 *F* = 0.70	.073 .128 .004
	7.3	6.6	7.0	5.2		*p* = .001 *p* = .001 *p* = .402	.968 .999 .133
SCID-D identity alt.	1.50	1.00	1.25	1.00	0.001	*F* = 21.13 *F* = 2.35 *F* = 2.35	.102 .012 .012
	0.78	0.00	0.55	0.00		*p* = .001 *p* = .127 *p* = .127	.996 .332 .332
SCID-D identity conf.	1.95	1.00	1.40	1.00	0.001	*F* = 40.63 *F* = 6.72 *F* = 6.72	.178 .035 .035
	1.02	0.00	0.68	0.00		*p* = .001 *p* = .010 *p* = .010	1.00 .732 .732
Intrusion from within	.15	−.43	−.44	−.84	0.001	*F* = 12.45 *F* = 12.98 *F* = 0.403	.062 .065 .002
	.96	.82	1.02	.59		*p* = .001 *p* = .001 *p* = .526	.939 .948 .097
Different person	.09	−.02	−.27	−.53	0.001	*F* = 1.70 *F* = 9.10 *F* = 0.254	.009 .046 .001
	1.01	.88	.93	.61		*p* = .194 *p* = .003 *p* = .615	.254 .851 .079
Externalization	.15	−.33	−.45	−.40	0.002	*F* = 2.35 *F* = 5.33 *F* = 3.40	.012 .028 .018
	1.06	.83	.62	.66		*p* = .127 *p* = .022 *p* = .067	.332 .632 .450

η^2 = Partial eta, o.p. = Observed power.

interview (n = 191) as well (Table 1). The data supported concurrent validity of the SIAQ.

Cuf-off score

A comparison between 60 participants who had a SIAQ score 25 or above (M = 1.3 SD = 0.7) and 131 participants who had a score below 25 (M = 1.1 SD = 0.4) yielded a significant difference on SCID-D identity alteration score (Kruskal–Wallis p = 0.001). A comparison between 11 participants who had moderate to severe identity alteration (mean = 26.6 SD = 6.5) on SCID-D (scores 3 or 4) with the 180 participants who had either no or mild (mean = 21.0 SD = 7.5) identity alteration (SCID-D scores 1 or 2) also yielded a significant difference (Kruskal–Wallis p = 0.005). Taking SIAQ score 25 and above as the cut-off point (on condition that at least one type of impairment is reported by the participant), sensitivity of the SIAQ was 63.6% and specificity was 70.0% in differentiating the participants who had moderate to severe identity alteration in SCID-D.

Distribution of identity alteration scores

The distribution of the SIAQ total scores was unimodal (continuous) and differed from normal distribution significantly (Kolmogorov–Smirnov, $p < 0.001$). Among all participants, 161 (12.4%) had an SIAQ total score of 11, 931 had (71.5%) 12 to 24, and 209 (16.1%) had 25 to 42. Of the participants, 468 (36.0%) reported distress from their symptoms due to social impairment (n = 220, 16.9%), loss of working capacity (n = 200, 15.4%), or subjective distress (n = 294, 24.6%). Participants considered with a SIAQ score 25 or above (n = 209), 11.3 % (n = 147) of the overall study group reported a remarkable score of identity alteration and some type of impairment (Table 2). A principal component analysis of the 11 scale items yielded three dimensions that had eigenvalues above 1. These explained 61.3% of the total variance (Table 3). The largest factor represented "mental intrusions from within." The remaining two factors represented experiences of being a "different person" and "externalization."

Identity alteration and dissociation

In variance analysis, DDs were associated with both clinician-recorded (SCID-D) and self-report (SIAQ) identity alteration scores including the factor of "mental intrusions from within" (Table 1). There were significant correlations between all clinician-recorded dissociation and self-report identity alteration scores except between clinician-recorded identity alteration score and the self-reported factor of "mental intrusions from within" (but not "externalization" and "different

Table 2. Mean scores and prevalence of the Steinberg Identity Alteration Questionnaire items in the overall group (N = 1301). Range = 1–5.

IDENTITY ALTERATION (SIAQ)	Mean	*SD*	≥3 (%)	Also impaired (%)
Mood changes that one cannot control.	2.14	1.00	%37.0	%17.2
Temper outbursts that seem out of one's control or out of proportion to the situation.	1.94	0.96	%27.4	%13.7
Feeling as if one is living a secret life and even closest friends are unaware of what one is really like.	1.70	0.98	%21.4	%12.2
Image of someone different inside.	1.71	0.99	%21.2	%11.8
Different people inside who influence behavior or mood.	1.58	0.90	%17.4	%10.6
Different names that one calls herself or that other people call.	1.82	1.01	%24.6	%10.4
Speaking in a completely different voice or style.	1.65	0.88	%19.5	%10.4
"Inner child" takes control of behavior.	1.63	0.91	%17.8	%9.3
People tell that one has acted like a different person.	1.62	0.84	%16.4	%9.3
As an adult, having imaginary friends that one talks to.	1.25	0.65	%6.4	%3.9
Not recognizing things that one has written.	1.26	0.63	%6.1	%3.5

Table 3. Principal component analysis (varimax rotation) on Steinberg Identity Alteration Questionnaire items derived from the group evaluated by the study clinician (N = 191).

	Intrusion from within	Different person	External ization
Speaking in a completely different voice or style.	**.80**	−.03	.11
"Inner child" takes control of behavior.	**.71**	.07	.06
Image of someone different inside.	**.69**	.10	.36
Feeling as if one is living a secret life and even closest friends are unaware of what one is really like.	**.63**	.47	.08
Different people inside who influence behavior or mood.	**.62**	.44	.27
Mood changes that one can't control.	**.57**	.18	.48
Not recognizing things that one has written.	**.48**	.45	−.45
Different names that one calls herself or that other people call.	−.09	**.80**	.04
People tell that one has acted like a different person.	.30	**.70**	.22
As an adult, having imaginary friends that one talks to.	.14	.01	**.69**
Temper outbursts that seem out of one's control or out of proportion to the situation.	.25	.38	**.69**
Variance explained	39.76%	11.39%	10.18%

Notes: Each group of bold numbers represents a factor.

person" factors) (Table 4). Apparently, dissociation has two different aspects experienced as "inside" or "outside".

All depersonalization and derealization scores were associated with all identity alteration scores (self-report and clinician-assessed) (Table 5). However, among four factors of the self-report depersonalization and derealization assessment, only "detachment from reality" was associated with clinician-recorded identity alteration. Apparently, self-awareness of identity alteration leads to an experience of depersonalization.

Self-report dissociative amnesia was not correlated with clinician-assessed identity alteration score. Hence, self-awareness about amnesia (a BPD-like condition) and clinician-recorded identity alteration (a DID-like condition) seem to represent two different patterns. Clinician-assessed dissociative

Table 4. Correlations between clinical scale scores and childhood trauma reports among participants evaluated by clinician-interview (n = 191).

	Steinberg Identity Alteration	SCID D Identity Alteration	Intrusion from within	Different person	Externalization
SCID-D					
Total score	.50**	.57**	.40**	.28**	.24**
Identity Alteration	.24**	–	.13	.18*	.24**
Identity Confusion	.30**	.59**	.24**	.18*	.14
Dissociative Amnesia	.39**	.34**	.34**	.23**	.14
Depersonalization	.48**	.42**	.33**	.36**	.23**
Derealization	.27**	.55**	.21**	.16**	.21**
Nr. of BPD criteria	.53**	.29**	.43**	.26**	.29**
CTQ					
Total score	.28**	.07	.35**	.11	.24**
Physical abuse	.25**	.07	.28**	.08	.18*
Emotional abuse	.34**	.11	.31**	.22**	.22**
Physical neglect	.21**	.14	.33**	.16*	.17*
Emotional neglect	.19**	−.02	.25**	.08	.18*
Sexual abuse	.18**	.15*	.26**	.08	.08
Minimization of trauma	−.15*	−.05	−.18*	−.01	−.13

BPD = Borderline Personality Disorder, CTQ = Childhood Trauma Questionnaire, SCID-D Structured Clinical Interview for DSM-IV Dissociative Disorders.
*= $p < 0.05$ ** = $p < 0.001$.

Table 5. Identity alteration, dissociative amnesia, and depersonalization-derealization: correlations between scale scores among participants evaluated by clinician-interview (n = 191).

	Steinberg identity alteration	SCID D identity alteration	Intrusion from within	Different person	Externalization
Steinberg Dissociative Amnesia Quest.					
Total score	.62**	.08	.55**	.33**	.22**
Dissociated Behavior and Generalized Amnesia	.28**	.10	.24**	.20**	.02
Memory Gaps	.50**	.03	.44**	.24**	.19**
Intrusive Memories	.31**	.05	.26**	.14**	.20**
Steinberg Quest.					
Depersonalization	.83**	.25**	.66**	.47**	.48**
Derealization	.81**	.21**	.65**	.46**	.45**
Cognitive Emotional Self Detachment	.65**	.13	.51**	.39**	.33**
Perceptual Detachment	.38**	−.03	.34**	.20**	.21**
Detachment From Reality	.35**	.25**	.26**	.25**	.17**
Bodily Self Detachment	.02	.05	.09	−.05	−.06

BPD = Borderline Personality Disorder, CTQ = Childhood Trauma Questionnaire, SCID-D Structured Clinical Interview for DSM-IV Dissociative Disorders.
*$p < .05$ **$p < .001$.

amnesia (a DID-like condition) was related both to "mental intrusions from within" and "different person" (a BPD-like condition) but not to "externalization" factor (an OSSD-type 1-like condition).

Borderline personality disorder and identity alteration

The total number of BPD criteria was correlated with all identity alteration measures (Table 1). Compared to the non-BPD group, participants who fit the criteria of BPD had higher SCID-D identity alteration (M = 1.36, SD = 0.70 versus M = 1.05, SD = 0.25) and SIAQ scores (M = 25.9, SD = 7.4 versus M = 17.96, SD = 5.64) (Kruskal–Wallis p = 0.001 for each analysis). There were significant differences on all assessments between the four groups according to their DD and BPD status (Table 1). Post hoc analysis (Tukey test) confirmed that participants who had "double condition" obtained significantly higher scores than all remaining groups on self-report and clinician recorded identity alteration. None of the scales differentiated the "DD only" group from healthy controls. However, self-report identity alteration score differentiated "BPD only" from healthy controls. In variance analysis, the condition of BPD had significant effect on all scale scores except clinician-recorded identity alteration. Hence, BPD differed from DDs on lack of identity alteration in clinical interview despite elevated scores in self-report.

Identity alteration and childhood trauma

There were high correlations between self- report identity alteration and childhood trauma (CTQ) total scores in the overall study group (rho = 0.28, N = 1301, p = 0.001), in the DD group (rho = 0.47, n = 78, p = 0.001), as well as in the groups evaluated by the study clinicians (n = 191) (Table 1). In a linear stepwise regression analysis conducted on the overall group, taking five types of childhood trauma scores as independent variables and self-report identity alteration total score as dependent variable, childhood emotional abuse (B = 3.71 p = 0.001), sexual abuse (B = 1.35 p = 0.002), and physical neglect (B = 1.09 p = 0.006) predicted identity alteration (F = 58.75, df = 1299, 3 p = 0.001). These data supported the convergent validity of SIAQ.

In contrast to this, clinician-assessed identity alteration was not correlated with CTQ total score (Table 4). Interestingly, clinician-assessed identity alteration (a measure associated with DID rather than BPD) was correlated with sexual abuse only, whereas self-report identity alteration (a measure associated with BPD rather than DID) was correlated with all childhood trauma types. "Mental intrusion from within" factor, a phenomenon shared both by DDs and BPD, was correlated with all types of childhood trauma.

All types of childhood trauma except sexual abuse were correlated with the "externalization" factor but not with experience of being a "different person" (Table 4). Possibly, diminished awareness and dissociative amnesia about developmental traumatization account for the latter. Indeed, while

"dissociated behavior & generalized amnesia" (a self-report dissociative amnesia factor) was not correlated with the "externalization" factor, this relationship existed with the "different person" factor. The "different person" factor was correlated only with emotional abuse and physical neglect.

Discussion

The good internal consistency and test–retest correlations suggest that the SIAQ is a reliable instrument. Of the overall study group, 11.4 % had scores of 25 or above (recommended cut-off score) and reported some type of psychosocial impairment due to these experiences. Hence, according to the self-reports, one of every nine college students suffered from identity alteration to a considerable degree. "Mood changes that one can not control" and "temper outbursts" were those with the highest scores and widest prevalence among all items (Table 2). These phenomena may represent experiences on a large spectrum from normalcy to "affect dysregulation." They may even be an indirect clue to distinct personality states in extreme situations. As they are also among BPD criteria, they may also be conflated with bipolar or cyclothymic disorder by a clinician. However, a Schneiderian-like experience that affected 10.6% of the participants (and caused psychosocial impairment) pointed to DID or its subthreshold form (DSM-5 other specific OSDD type-1): "having different people inside who influence behavior or mood." This phenomenon has been attributed to a "structural dissociation of personality" (Van der Hart, Nijenhuis, & Steele, 2006) leading to the presence of distinct personality states and/or fragmentation of consciousness leading to the experiences of first, second, or third person perspectives (Frewen & Lanius, 2014) in one individual.

An earlier study of women in the general population of Sivas City yielded a lifetime prevalence of 7.6% for DID and OSDD type-1 (Sar, Akyüz, & Dogan, 2007). The higher prevalence of identity alteration in the present study seems to be a consequence of younger age of the participants. For example, a screening study of a clinical population yielded higher prevalence of DID and OSDD-type 1 for adolescents compared to adults (Şar, Önder, Kılınçaslan, Zoroğlu, & Alyanak, 2014). Lack of significant relationship with childhood trauma measure and the DD diagnosis in the adolescent DD group suggested that the less-traumatized ones among them possibly become non-symptomatic in adulthood or DD is replaced by another syndrome because the prevalence of DDs is drastically lower among adult psychiatric outpatients (Sar et al., 2003). Nevertheless, attachment disturbance seemed to be the predominant characteristics of the dissociative adolescents.

Not only similarities but significant differences between self-rating and clinician-assessment seemed to be related to the psychological condition as seen in earlier analyses on the database of the present study in the context of

dissociative amnesia, depersonalization, and derealization (Sar et al., in press, 2014). Other studies conducted on BPD have noted such differences as well (Edell, Joy, & Yehuda, 1990; Fertuck et al., 2009). Lis and Bohus (2013) discussed the possibility that encounters with unknown individuals indicate impairments in interaction behavior of individuals with BPD, and that such impairments can even be linked to altered cerebral processing. For example, BPD patients with identity disturbance show high levels of negative affects in questionnaires but only few negative affects in the interview situation (Walter et al., 2009). Higher BPD features were associated with lower ratings of trustworthiness of the faces and higher scores on rejection sensitivity. Furthermore, the association between BPD features and trust appraisal was mediated by rejection sensitivity (Miano, Fertuck, Arntz, & Stanley, 2013). "Betrayal trauma" (Freyd, 1994), which is inherent to abusive relationships, has been shown to be associated with BPD characteristics (Kaehler & Freyd, 2009). It is possible that individuals on this spectrum may omit particular symptoms spontaneously in the presence of an interviewer.

In the present study, self-reported dissociative amnesia was not correlated with clinician-recorded identity alteration score. Apparently, unlike those with self-reported identity alteration, participants with clinically observed identity alteration were not aware of their dissociative amnesia. According to the present study, while the former condition would be associated with BPD, the latter (with diminished awareness of symptoms due to "switching") would be closer to DID. The self-report "mental intrusions from within" factor was accompanied by self-report dissociative amnesia which was not identified in clinical interview. Nor was clinician-assessed dissociative amnesia correlated with self-report externalization factor (i.e., imaginary friends and temper outbursts). The latter condition seemed to be associated with OSDD type-1. Grade of awareness about dissociative amnesia and identity alteration seems to differentiate various types of complex dissociative disorders.

A possible relationship of the variability in the awareness of identity alteration and dissociative amnesia with childhood trauma is of interest in this context. Although there was a high correlation between self-reported identity alteration and the childhood trauma total score, this relationship was not observed with clinician-recorded identity alteration. The DD group seemed to be prone to underreport childhood trauma compared to the BPD group as also shown in the elevated "minimization (denial) of childhood trauma" score in an earlier analysis (Sar et al., 2006). While the total childhood trauma score was correlated with the self-reported "externalization" factor, this relationship did not exist with the "different person" factor. On the other hand, externalization is a pattern more likely attributed to a "personality disorder," while "different person" factor clearly points to DID. The self-reported factor of "mental

intrusion from within," a phenomenon shared both by DDs and BPD, was correlated with all types of childhood trauma.

There was no statistical interaction between BPD and DDs for identity alteration in the present study. However, in an earlier analysis, this relationship existed between two diagnostic patterns on clinician-recorded derealization and self-reported "detachment from reality" factor (Sar et al., in press). In the present study, all measures of depersonalization and derealization were associated with all measures of identity alteration across diagnostic preferences and personal and interpersonal awareness. These observations support the central role of depersonalization and derealization (alongside "mental intrusions from within") in the spectrum of trauma-related psychopathology and their dissociative quality. Apparently, clinically observed identity alteration and self-reported "detachment from reality" constitute a pattern separate from "mental intrusions from within." Nevertheless, both patterns were associated with depersonalization and derealization.

Identity is a construct sensitive to culture and time (Somer, 2016). Although identity requires continuity per definition, this notion is currently challenged considering possible need for more flexibility of identity of today's individual (Sar, in press). On the other hand, underlining their cultural variability, there were large discrepancies between BPD criteria met by Turkish and Dutch patients with DID who had similar dissociative symptoms (Sar, Yargic, & Tutkun, 1996). Such variance may occur due to differences in traumatic antecedents and also the tendency toward coping styles more common and effective in a culture. Gathered from a non-clinical and highly functional population, the findings of the present study may represent partly the response patterns in a society chronically exposed to stress such as migration, economic instability, cultural change, and last but not least, experience of being a constant target of politically motivated terrorism (Dorahy, Lewis, Millar, & Gee, 2003).

The present study has several limitations. Firstly, all data were gathered from a non-clinical and highly functional population. At the same time, this might also be seen as advantageous in terms of recognizing dissociation in everyday life. Second, this is the first and only study using the SIAQ. Hence, any finding of this study should be considered as preliminary. Third, childhood trauma reports are of retrospective nature and subject to distortion. However, they may also have been underreported due to minimization (denial) or dissociative amnesia. Last but not least, possible cultural influences on findings cannot be identified as there was no comparison group recruited from a other culture.

The notion that the number of BPD criteria represented the severity of dissociation (Sar et al., in press, 2014) was supported by the present study: number of BPD criteria was correlated with all identity alteration scores (Table 4). Nevertheless, rather than overall severity of the condition, clinical assessment of more serious mental disruption (e.g., due to lack or oppression of

a personality state that would pursue mental continuity) seemed to lead clinicians to diagnose a DD more readily. As BPD did not have a significant effect on clinician-assessed identity alteration in variance analysis, the discriminative power of self-assessment seems to be better in this regard. In contrast to this, recognition of identity alteration by a clinician is relatively difficult in BPD (although detected by self-report) compared to DDs. Or vice versa; of those individuals for whom identity alteration were not recognized by the clinician (although present in self-report), the diagnosis of BPD was made more readily. However, attribution of trauma-related symptoms to a "personality disorder" is a questionable practice. Further revisions of DSM-5 should consider to reduce potential for over-diagnosis of BPD in traumatized populations with DDs.

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