

Self-injurious behavior in Portuguese adolescents

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In order to assess the frequency and correlates of self-injurious behavior (SIB), 569 Portuguese adolescents aged 12 to 20 years completed questionnaires assessing SIB and psychopathological symptoms. Almost 28% (n = 158) reported a lifetime history of SIB and nearly 10% had performed it in the previous month. The most frequently injured body parts were arms, hands and nails. Most of the self-injurers admit that “now and then” they feel some “mild” to “moderate” pain during SIB. Most of them admitted using these behaviors to avoid/suppress negative feelings, painful images or memories, to punish themselves and to avoid doing something bad. Positive emotions increased significantly after SIB. The self-injurer group reported more psychopathological symptoms. SIB appears to be a common phenomenon with specific functions in adolescence and this must be addressed by clinicians and educational professionals.

Conducta autolesiva en adolescentes portuguesas. Con la finalidad de evaluar la frecuencia y la correlación de la conducta autolesiva en 569 adolescentes portuguesas de edades comprendidas entre 12 y 20 años de edad, se han completado cuestionarios evaluando la conducta autolesiva y los síntomas psicopatológicos. El 28% (n= 158) reportó un historial de conducta autolesiva y el 10% lo habían tenido el mes anterior. Las partes del cuerpo con mayores lesiones son los brazos, las manos y las uñas. Asimismo, la mayoría de las personas que se autolesionan admiten sentirse en ese momento con un dolor entre ligero y moderado. Además, admiten usar esta conducta con el fin de evitar o suprimir sentimientos negativos, imágenes y memorias dolorosas para autocastigarse y para evitar hacer algo malo. Las emociones positivas se incrementan de forma significativa después de la conducta autolesiva y el grupo de los que se autolesionan presentan más síntomas psicopatológicos. La conducta autolesiva parece ser un fenómeno común con funciones específicas en la adolescencia y esto debe ser tratado por profesionales del área clínica y educacional.

Messner and Fremouw (2008) define self-injurious behavior (SIB) as a deliberated act, with tissue damage without intent to die, social unacceptability and typical repetitiveness. On the other hand, Favazza (1998) defines self-injurious behavior as a direct and deliberate damage of one's own body surface without suicidal intent. In adolescence self-injurious behaviors can be common. Adolescence tend to be a critical period for SIB (Claes & Vandereycken, 2007), as is evidenced by rates of 14 to 39% in community samples of adolescents (Ross & Heath, 2002). However, self-injurious behaviors are typically associated with clinical populations and few epidemiological studies are available. It is estimated that self-injurious behavior occurs in 4% of the general adult population and in 21% of the adult psychiatric population (cf. Claes, Vandereycken, & Vertommen, 2007). These behaviors are commonly found in college and high school students where the prevalence range from 12% to 38% (Gratz, 2001; Kokalliari, 2005), mentally retarded (3 to 46%), and male prison inmates (5%) (Simeon & Favazza, 2001). The average age of onset self-injurious

behavior is, usually, 14 years (Muehlenkamp & Gutiérrez, 2004). Overall, the typical individual who self-injurers has been described as female, adolescent or young adult, single, intelligent, and from a middle to upper-middle socioeconomic class background who cuts on her wrists or arms.

Self-injurious behavior has many forms and a great diversity in meanings (Claes & Vandereycken, 2007). In a community study with adolescents, self-cutting was found to be the most common method of self-harm, followed by self-hitting, pinching, scratching and biting (Muehlenkamp & Gutiérrez, 2004) and these behaviors seems to be frequently associated with personality disorders (dependent, borderline, schizotypal and avoidant), depression and anxiety symptoms (Klonsky, Oltmanns, & Turkheimer 2003), and eating disorders (Claes, Vandereycken, & Vertommen, 2006; Favaro & Santonastaso, 2002). The most reported reasons to be endorsed in self-injurious behavior are (Briere & Gil, 1998): (1) distracting oneself from painful feelings, and (2) self-punishment. Some authors (e.g., Chapman, Gratz, & Brown, 2006; Nixon et al., 2002; Osuch et al., 1999) believe that self-injurious behavior is a strategy used to compensate for inadequate affect regulation in stressful situations. In fact, many self-injurers report this behavior as a method of coping with unwanted negative emotions and when trauma or psychological distress overwhelms their capacity to cope effectively (cf. Whitlock & Knox, 2007). Self-mutilating or self-cutting are pointed by several studies to be the method more

commonly used (Muehlenkamp & Gutiérrez, 2004). Bjarehed and Lundh (2008) found, however in their participants reports of other methods less common, like “broke my own finger” and “dieting”.

Some researchers claim that most of the adolescents report experiencing little or no pain at all (Nock & Prinstein 2005). Claes, Vandereycken and Vertommen (2005) associated the account of absence or less pain during the display of self-injury with younger patients with history of physical abuse, who exhibit self-cutting for more than a year. Some studies also reveal that a substantial number of self-injurers claim to know friends who also carry out self-injury behaviors (Nock et al., 2005; Yates, Carlson, & Egeland, 2008). Some of these adolescents may engage in this behavior because they believe that somehow their friend's behavior was successful in obtain specific social behaviors from others (Nock et al., 2005). Several causes have been associated with the emergence of deliberated self-injury behavior, but many researchers strongly implicate the role of adverse experiences in childhood in the etiology of such behaviors. So, another group commonly engaging in self-injurious behavior is individuals with a history of trauma in their childhood, like sexual and/or physical abuse or a greater number of traumatic experiences (cf. Croyle, 2000). Van der Kolk, Perry and Herman (1991) found that the most self-destructive individuals were those with the most severe histories of separation and neglect and with sexual abuse. High levels of dissociation found in self-harmers with history of sexual and physical abuse seem to tell us that dissociation works as a mediator between child sexual abuse and recurrent self-injurious behaviors (Low, Jones, MacLeod, Power, & Duggan, 2000). On the other hand, emotional abuse and physical neglect can also be found as predictors by Glassman, Weierich, Hooley, Deliberto and Nock (2007) in self-injurious behaviors.

According to Laye-Gindhu and Schonert-Reichl (2005) previous research on adolescent self-harm is limited to 4 important ways: (1) There has been no consensus on conceptualizations and classifications of self-harm (the “whats”); (2) A paucity of research has explored the frequency and nature of self-harm; (3) There exists limited research examining gender in relation to self-harm in non-clinical samples of adolescents; and (4) There exists a dearth of empirical research examining the motivations underlying self-harm behaviors.

Due to the increased awareness of the community about self-injurious behaviors among teenagers, research investigating the epidemiology and phenomenology is increasing. However there remains a lot of work to do about this phenomenon and about the Portuguese reality on self-injurious behaviors in adolescents. To our knowledge this is the first study in Portugal that evaluates the relation between self-injurious behavior in adolescence and psychopathology. Meet the phenomenon may inform the adoption of preventive measures and more effective interventions. Therefore, the aims of this study are: (1) to assess the frequency of self-injurious behavior (e.g., type, frequency, duration, and intensity) in adolescents (2) to identify current external and internal stimulus conditions that contribute directly to the instigation of self-injurious behavior; (3) to assess the psychopathological states related to self-injurious behavior.

Method

Participants

Participants were 569 students (304 females, 51.2%) from seven public schools of the north of Portugal, with ages ranging

from 12 to 20 years ($M= 15.95$, $SD= 1.42$). Most of the adolescents (77.3%) lived with both parents and with their siblings). Overall, 69 (11.6%) of them admitted to having had a psychological problem and 49 (8.2%) refers having had psychological treatment.

Procedure

All participants were informed about the research aims, questionnaires (how to fill them in and what do they evaluate), about the personal data confidentiality and data analysis. Data confidentiality was assured to participants and questionnaires were given to those who declare informed consent. Questionnaires application was done after schools declare their approval.

Instruments

Socio-Demographic Questionnaire has a small amount of items that allows data collection concerning, i.e. sex, age, school where the participant studies, with whom the participant lives with, if the participant have any psychological problem, psychological problems nature and if he search for professional help to resolve it.

Self-Injury Questionnaire (SIQ-TR, Claes & Vandereycken, 2007, translated by Gonçalves, 2008) is constituted by six groups, which five of them seek for data concerning information about five dissimilar self-injurious behavior (scratching, hurting, cutting, burning and biting one's self). The last group is constituted by a pack of questions that, equally, evaluates the characteristic of a self-injurious behavior. However, in this last group the participant reports freely the self-injurious behavior in which he/she engages and that had not been describe so far. For each group, self-injurious behavior characteristics are evaluated, including: if ever done, how many times and frequency of that behavior; which body parts did the participant hurt; pain's intensity and frequency; emotions related (previous and post behavior); and reasons for engaging into self-injurious behavior. In the original version, this questionnaire has very favorable psychometric characteristics.

Brief Symptom Inventory (BSI, Derogatis, 1993; Portuguese version validated by Canavarro, 1995) is a psychopathology symptom inventory to identify self-reported clinically relevant psychological symptoms in adolescents and adults. It consists of 53 items covering nine symptom dimensions: Somatization, Obsession-Compulsion, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic anxiety, Paranoid ideation and Psychoticism; and three global indices of distress: Global Severity Index, Positive Symptom Distress Index, and Positive Symptom Total. The global indices measure current level of symptomatology, intensity of symptoms, and number of reported symptoms, respectively. BSI was adapted to Portuguese population by Canavarro in 1995. This inventory presents very favorable psychometric characteristics, with good internal consistence in the scale, time stability, good construct validity, good instrument predicted and group discriminated validity (in groups with or without psychopathology).

Data analysis

Descriptive statistics were used to examine the frequency of different SIB actions as well related characteristics of SIB. Nonparametric test for related samples were conducted to evaluate the emotions before and after self-injurious behavior. Logistic regression analyses were conducted to examine if gender

predicts endorsing groups (self-injurers vs. non-self-injurers). Finally, to compare both groups on psychopathological symptoms multivariate analysis of variance (MANOVA) tests and univariate analysis were performed.

Results

Almost 28% (27.7%, *n*= 158) of the sample reported a lifetime history of self-injurious behavior. Of the 158 adolescents that reported lifetime history of self-injurious behavior, 56 (35.4%) reported self-injurious behavior in the last month.

The mean age of the adolescents that reported self-injurious behavior in the last month was 15.27 (*SD*= 1.17). Of these, 32 (57.1%) were female and 24 (42.9%) were male. Women were not more likely to present self-injurious behavior than men (Wald $\chi^2= 2.12, p= .76$). There was an association between age and self-injurious behavior with self-injurious behaviors being associated with younger age ($r_{pb} = .11, p= .007$).

Type of self-harm behaviors

In the last month, 19 of the participants (3.3%) scratched themselves, 17 (2.9%) bruised, 15 (2.6%) cut, 3 (0.5%) burned, 29 (5.1%) bit themselves and 11 (1.9%) use other types of self-injury (e.g., pulling). Seventeen adolescents (30.4%) performed one type of SIB, 23.2% (*n*= 13) two types, 21.4% (*n*=12) three types, 14.3% (*n*= 8) four types, 7.1% (*n*=4) five types and 3.6% (*n*= 2) six types of SIB.

Parts of body injured, frequencies of self-harm behaviors and reported pain during self-harm behavior

Table 1 shows the frequencies and percentages of the different categorically scored characteristics of each type of SIB separately. Overall, the “arms, hands and nails” are the most frequently injured body parts. SIB occurs on average “1 to 5 times a month” and “less than once a day”. Most of the students admit that they feel “now and then” some “mild” to “moderate” pain during self-injurious behavior.

Table 1
Frequencies and percentages of the different types of SIB

	Scratching N= 19 <i>n</i> (%)	Bruising N= 17 <i>n</i> (%)	Cutting N= 15 <i>n</i> (%)	Burning N= 3 <i>n</i> (%)	Bitting N= 29 <i>n</i> (%)	Other N= 11 <i>n</i> (%)
Body parts injured						
Head	0	0	1 (6.7)	0	1 (3.4)	4 (36.4)
Arms, hands and nails	15 (78.9)	13 (76.4)	13 (86.7)	3 (100)	28 (96.6)	3 (27.3)
Torso, belly, buttock	0	3 (17.6)	0	0	0	3 (27.3)
Legs, feet, toes	3 (15.8)	1 (5.9)	1 (6.7)	0	0	1 (9.1)
Breast, genitals	1 (5.3)	0	0	0	0	0
Frequency (days/month)						
1-5	13 (68.4)	14 (82.4)	10 (66.6)	3 (100)	24 (82.8)	4 (36.4)
6-10	2 (10.5)	2 (11.8)	2 (13.3)	0	1 (3.4)	1 (9.1)
10-15	0	0	0	0	2 (6.9)	2 (18.2)
>15	4 (21.1)	1 (5.9)	3 (20.0)	0	2 (6.9)	4 (36.4)
Frequency (times/day)						
<1	12 (63.2)	12 (70.6)	11 (73.3)	3 (100)	9 (31.0)	5 (45.5)
1-2	6 (31.6)	4 (23.5)	2 (13.3)	0	13 (44.8)	4 (36.4)
3-4	1 (5.3)	1 (5.9)	1 (6.7)	0	4 (13.8)	1 (9.1)
>5	0	0	1 (6.7)	0	3 (10.3)	1 (9.1)
How often pain						
Never	3 (15.8)	4 (23.5)	3 (20.0)	1 (33.3)	11 (37.9)	1 (9.1)
Now and then	15 (78.9)	12 (70.6)	8 (53.3)	1 (33.3)	13 (44.8)	7 (63.6)
Often	1 (5.3)	1 (5.9)	3 (20.0)	0	4 (13.8)	1 (9.1)
Always	0	0	1 (6.7)	1 (33.3)	1 (3.4)	2 (18.2)
Degree of pain						
None	4 (21.1)	3 (17.6)	2 (13.3)	1 (33.3)	3 (10.3)	2 (18.2)
Mild	9 (47.4)	11 (64.7)	4 (26.6)	1 (33.3)	15 (51.7)	2 (18.2)
Moderate	4 (21.1)	3 (17.6)	6 (40.0)	0	9 (31.0)	5 (45.5)
Strong	2 (10.5)	0	2 (13.3)	1 (33.3)	2 (6.9)	2 (18.2)
Very Strong	0	0	1 (6.7)	0	0	0

Characteristics of different types of SIB

The means and the standard deviations of the dimensionally scored SIB characteristics are shown in table 2. Most self-injurers admit that their self-injurious behavior was seldomly planned (“never” to “sometimes”), that their “sometimes” realize how their SIB came about, that they “sometimes take care” of their wounds, and they “sometimes” concealed their wounds.

Emotions before and after self-harm behavior

Table 3 shows the mean and standard deviations of the emotions before and after self-injurious behavior in those adolescents that reported self-injurious behavior in the last month. After SIB, self-injurers refers feeling more relieved ($Z = -3.838, p < .001$). They also reported less nervous ($Z = -4.208, p < .001$), less anxious ($Z = -2.233, p = .03$) and less angry with others ($Z = -2.632, p = .008$). Positive emotions (glad and relieved) increased significantly after the occurrence of the self-injurious behavior ($M = 2.78, SD = 1.93; M = 3.98, SD = 2.52; Z = -3.371, p = .001$) and negative emotions (nervous, bored, angry self and others, anxious, sad and guilt) decreased significantly after the occurrence of the self-injurious behavior ($M = 14.95, SD = 6.91; M = 13.13, SD = 5.51; Z = -2.822, p = .005$)

Motivations for self-harm behavior

The means and standard deviations of the functions of SIB are shown in table 4. Most of the self-injurers admitted to use these behaviors “a bit” to avoid or suppress negative feelings, to avoid or suppress painful images or memories, to punish itself, to avoid doing something bad that do not want to do and for other reasons.

Psychopathological symptoms and self-injurious behavior

Table 5 shows the results of Brief Symptom Index (BSI) for groups with self-injurious (past and present) vs non self-injurious (past and present). Multivariate differences indicated a significant effect of self-injurious behavior (Wilk’s lambda = .88, $F_{(12, 488)} = 5.73, p < .001$). Univariate analysis revealed that self-injurers reported significantly higher scores in all the BSI scales compared with non-self-injurers (see table 5).

Discussion

In recent years there has been considerable interest in determining the prevalence of self-harm among adolescents (Prinstein, 2008). This interest may be due to self-injurious behavior being very often related to suicide. Favazza (1996)

Table 2
Means (M) and standard deviations (SD) of characteristics of different types of SIB

	Scratching N= 19 M (SD)	Bruising N= 17 M (SD)	Cutting N= 15 M (SD)	Burning N= 3 M (SD)	Biting N= 29 M (SD)	Other N= 11 M (SD)
Characteristics						
Planned	1.26 (0.73)	1.22 (0.65)	1.06 (0.25)	1.67 (1.15)	1.18 (0.48)	1.45 (0.93)
Not dissociated	2.74 (1.19)	2.67 (1.14)	2.88 (1.31)	3.00 (1.00)	2.76 (1.21)	2.73 (1.35)
Wound care	2.47 (1.12)	2.28 (1.23)	2.50 (1.26)	2.00 (1.73)	1.79 (1.20)	1.91 (1.14)
Hiding wounds	2.11 (1.20)	1.89 (1.28)	2.56 (1.41)	3.00 (1.00)	2.43 (1.45)	2.45 (1.13)

Scored on a 4 point likert scale (1= never; 2= sometimes; 3= often; 4= always)

Table 3
Means (M) and standard deviations (SD) of the emotions before and after the self-injurious behavior

	Before SIB M (SD)	After SIB M (SD)
Glad	1.41 (1.04)	1.74 (1.26)+
Relieved	1.46 (1.04)	2.37 (1.48)***
Nervous	2.63 (1.43)	1.91 (1.09)***
Bored	2.02 (1.34)	1.91 (1.28)
Angry self	1.98 (1.27)	1.84 (1.20)
Angry others	2.35 (1.57)	1.83 (1.26)**
Anxious	1.81 (1.28)	1.65 (1.07)*
Sad	2.33 (1.51)	2.33 (1.47)
Guilt	1.76 (1.14)	1.92 (1.37)
Other feeling	2.35 (1.78)	1.69 (1.34)

Scored on a 5 point Likert scale (1= not at all; 2= a bit; 3= moderately; 4= much; 5= very much)
+ $p < .10$; *** $p < .001$; ** $p < .01$; * $p < .05$

Table 4
Means and standard deviations of the functions of SIB

Functions of the SIB	M (SD)	Mini-Maxi
To feel so pleasure	1.28 (.67)	1-4
To avoid or suppress negative feelings	2.28 (1.60)	1-5
To avoid or suppress painful images or memories	2.10 (1.52)	1-5
To get into a twilight or numb state	1.28 (.73)	1-5
To get attention from others	1.03 (.16)	1-2
To escape from a twilight or numb state	1.09 (.35)	1-3
To punish myself	1.69 (1.21)	1-5
To make myself unattractive	1.02 (.097)	1-2
To avoid or suppress suicidal thoughts	1.27 (.68)	1-4
To show myself how strong I am	1.19 (.65)	1-5
To show others how strong I am	1.06 (.29)	1-3
To avoid doing something bad that don't want to do	1.99 (1.47)	1-5
To avoid going to school or work	1.21 (.79)	1-5
To avoid being with other people	1.18 (.69)	1-5
For other reason	2.28 (1.60)	1-5

Scored on a 5 point likert scale (1= not at all; 2= a bit; 3= moderately; 4= much; 5= very much)

claims that suicidal ideation co-exists (28 to 41%) in individuals that engage in self-injurious behavior. Despite this recent surge of interest, there exist little empirical data on self-harming behavior among community samples of adolescents. As far as we know no study until now evaluates self-injurious behavior in a Portuguese sample of adolescents. The investigation of self-injurious behavior in adolescence is critical given that self-harm typically arises in adolescence (van der Kolk et al., 1991). Our study reveals that self-injurious behavior among Portuguese adolescents is common and noteworthy. Indeed, the prevalence of self-harm history is higher than that reported in other European studies (e.g., Morey et al., 2008; Ystgaard et al., 2003). However, the prevalence of SIB in the last month is similar than reported by similar studies (Laye-Gindhu & Schonert-Reichl, 2005; Ross & Heath, 2002). Our results reported a prevalence of self-injurious behavior of 9.82% in the last month. Our findings suggested no differences in prevalence rates between adolescent girls and boys. Although it is commonly stated that more females than males reported self-injurious behavior, findings across studies have been equivocal. Some studies (e.g., Garrison et al., 1993; Gratz et al., 2002; Tyler, Whitbeck, Hoyt, & Johnson, 2003) found no difference between girls and boys, while other studies (e.g., Ross & Heath, 2002; Rodham et al., 2004) found increased prevalence among girls. Further, our results indicate that the most frequent method of self-injury used among adolescents was self-hitting. This result is consistent with other studies (Ross & Heath, 2002) that indicate that self-cutting and self-hitting were the most common methods of self-harm among adolescents. In terms of self-injurious behavior practices, and like other studies suggested (e.g., Ross & Heath, 2002) the majority of the adolescents' self-injurers reported using only one method.

An important aspect of the study was to compare adolescents self-injures with non-self-injurers on a psychopathology measure. Overall self-injurers adolescents were more likely to be emotionally distressed. We found that self-injurers scored higher on somatization, obsession-compulsion, interpersonal

sensibility, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism than adolescents who did not self-injure themselves. This findings are in accordance with literature indicating that these behaviors seems to be frequently associated with personality disorders (dependent, borderline, schizotypal and avoidant), depression and anxiety symptoms (Klonsky, Oltmanns, & Turkheimer 2003), impulsivity, somatic issues and obsessive-compulsive issues (Madge, Hewitt, & Hawton, 2008).

With regard to the nature of self-harm in this study, biting was the most common type of self-injurious behavior reported by adolescents (51.8%; $n = 29$). Overall, the "arms, hands and nails" are the most frequently injured body parts. SIB occurs on average "1 to 5 times a month" and "less than once a day". Most of the students admit that they feel "now and then" some "mild" to "moderate" pain during self-injurious behavior.

Consistent with other studies (e.g., Claes & Vandereycken, 2007; Laye-Gindhu & Schonert-Reichl, 2005), the pre/post-SIB comparison highlight an increase in positive affectivity and a decrease in negative affectivity. The reduction of aversive feelings and also a corresponding increase in positive emotions support the research suggesting that self-harm functions as an effective strategy to regulate affect (Nixon et al., 2002; Osuch et al., 1999; Suymoto, 1998; Laye-Gindhu & Schonert-Reichl, 2005).

Most of the self-injurers admitted to use these behaviors to avoid or suppress negative feelings, to avoid or suppress painful images or memories, to punish yourself, and to avoid doing something bad that don't want to do and for other reasons. In the study of Laye-Gindhu and Schonert-Reichl (2005) the most common reasons for self-harm, endorsed by more than 50% of the sample, include depression, feeling alone, negative feelings toward self (i.e., anger, self-dislike, inadequacy) distraction and feeling a need to hurt oneself. According to Greydanus and Shek (2009) reasons for non-suicidal self-injury include efforts to resist suicidal thoughts, expression of self-anger or disgust, resolve times of dissociation, influence others, or seek help from others.

In sum, this is one of the first studies to evaluate the prevalence of self-injurious behavior in a Portuguese sample of adolescents. The high prevalence of self-injurious behavior found in this study is surprising, if we take into account the community nature of the population. The findings of this study may alert to the need of school-based intervention in order to promotion of mental health and emotional regulation. Self-injurers adolescents are at risk for psychopathological developmental trajectories. Interventions may be more effective if aimed at replacing these type of self-destructiveness behaviors with functionally equivalent but adaptive behaviors (Claes & Vandereycken, 2007). If we considered that self-injurious behavior is often related to suicide ideation and suicide attempts (Prinstein, 2008), these results may be valuable not only for self-injurious prevention but also for suicide prevention among adolescents.

Limitations of the present study include the retrospective, cross-sectional nature of the study design. Although cross-sectional studies can help to identify the correlates of deliberate self-harm, causal relationships involved cannot be clearly established. Others limitations include the reliance on self-report for behavioral symptoms frequencies and the fact that the sample was self-selected. It is possible that individuals with more extreme self-injurious behavior would not take part of this study. Replication with larger samples and longitudinal studies are required to best understand the complexity of this behavior in adolescence.

Table 5
Results of Brief Symptom Index (BSI) for groups with self-injurious vs non self-injurious

	Self-injurers <i>n</i> = 142 <i>M</i> (<i>SD</i>)	Non self-injurers <i>n</i> = 359 <i>M</i> (<i>SD</i>)	<i>F</i> (<i>1,499</i>)
Somatization	.92 (.79)	.50 (.58)	43.04*
Obsession-compulsion	1.22 (.76)	.91 (.65)	21.06*
Interpersonal sensibility	1.15 (.99)	.73 (.79)	25.43*
Depression	1.23 (.98)	.78 (.80)	28.09*
Anxiety	1.00 (.81)	.64 (.61)	29.56*
Hostility	1.35 (1.00)	.87 (.75)	34.47*
Phobic anxiety	.53 (.61)	.34 (.53)	12.04**
Paranoid ideation	1.25 (.91)	.84 (.75)	26.87*
Psychoticism	.96 (.88)	.52 (.62)	40.23*
IGS	1.08 (.73)	.68 (.58)	40.25*
Positive symptoms total	30.43 (12.97)	22.74 (14.03)	31.92*
Positive symptoms index	1.74 (.61)	1.44 (.41)	41.72*

* $p < .001$; ** $p < .005$

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