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Research Paper

Measuring emptiness: Validation of the Italian version of the Subjective Emptiness Scale in clinical and non-clinical populations

A. D'Agostino [a,*], R. Pepi [a], M. Rossi Monti [a], V. Starcevic [b], A. Price [c]

[a] Department of Humanities, University of Urbino "Carlo Bo", Urbino (PU), Italy
[b] University of Sydney, Faculty of Medicine and Health, Sydney Medical School, Nepean Clinical School, Discipline of Psychiatry, Sydney, Australia
[c] California State University San Marcos, CA, USA

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ABSTRACT

Background: Although a feeling of emptiness is listed only as a symptom of the DSM-5 borderline personality disorder, it is commonly encountered in other disorders. The aim of this study was to validate the Italian version of the Subjective Emptiness Scale (SES-I), a 7-item self-report instrument assessing the feeling of emptiness.
Methods: Participants in one clinical group ($n = 63$) and one non-clinical group ($n = 48$) completed the SES-I along with several other instruments. A principal component analysis was used to analyze the structure of the SES-I and Cronbach's alpha and Rho's Spearman were used to establish aspects of reliability and validity, respectively.
Results: The SES-I has a unidimensional structure reflecting the core feature of the feeling of emptiness. It showed an excellent internal consistency ($\alpha = 0.92$) and convergent validity, as demonstrated by significant correlations with scores on the Beck Depression Inventory – II and conceptually related scales and subscales of the Millon Clinical Multiaxial Inventory – III and Personality Inventory for DSM-5. Divergent validity was also demonstrated for the SES-I. SES-I scores in the clinical group were significantly higher than in the non-clinical group. A significant relationship was not found between the feeling of emptiness and self-harming behavior, impulsivity and acting-out.
Limitations: A small sample size, several significant differences between the clinical and non-clinical groups and diagnostic heterogeneity in the clinical group limit generalizability of the study.
Conclusion: The SES-I is a valid and reliable instrument, which should improve assessment of the feeling of emptiness and help clinicians better understand this complex phenomenon.

1. Introduction

A feeling of emptiness is an affective experience commonly found in both clinical and non-clinical populations. Indeed, anyone could experience a feeling of emptiness during their lives (Didonna and Gonzalez, 2009; Peteet, 2011). A transient feeling of emptiness has been reported by people without mental disorders, during certain life situations or in association with some affective states (D'Agostino et al., 2020). In particular, the experience of feeling empty has been linked to other affective states, such as boredom (Mercer-Lynn et al., 2014; van Tilburg and Igou, 2012), loneliness (Kernberg, 1975; Westen et al., 1992) and numbness (Didonna and Gonzalez, 2009).

However, the feeling of emptiness can be more prominent and distressing in specific types of psychopathology. Thus, chronic emptiness was listed as a symptom of and diagnostic criterion for borderline personality disorder (BPD) in the Diagnostic and Statistical Manual of Mental Disorder – Fifth Edition (DSM-5; American Psychological Association, 2013) and reported by 71%-73% of BPD patients (Klonsky, 2008). A feeling of emptiness can also be found in other conditions, including narcissistic personality disorder (Kernberg, 1975; Svrakic, 1985), schizophrenia spectrum disorders (Stanghellini, 2009; Zandersen and Parnas, 2018), depression (Kernberg, 1975; Konjusha et al., 2021; Rhodes et al., 2018; Westen et al., 1992) and dissociative states (Rallis et al., 2012). In addition, this experience has been associated with non-suicidal self-injury (NSSI) and suicidal ideation (Blasco-Fontecilla et al., 2015, 2013; Brickman et al., 2014; Kleindienst et al., 2008; Klonsky, 2008; Miller et al., 2018; Rallis et al., 2012). These broad associations with a variety of psychopathological states has recently led to

* Corresponding author at: Department of Humanities, University of Urbino, Italy, via Saffi 15, 61029, Urbino (PU), Italy.
E-mail address: alessandra.dagostino@uniurb.it (A. D'Agostino).

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a suggestion that the feeling of emptiness is a transdiagnostic construct (D'Agostino et al., 2020; Price et al., 2019).

Despite the frequency with which a feeling of emptiness is encountered in various forms of psychopathology, there is a dearth of empirical work focusing on its clinical relevance. Almost all of that work has been conducted in the context of BPD. For example, some authors described a feeling of emptiness among the "temperamental symptoms" of BPD that were slow to remit and most likely to recur (Zanarini et al., 2016, 2007). Of the four typical BPD manifestations (impulsivity, affect instability, chronic feeling of emptiness and intense anger), the chronic feeling of emptiness was the only one associated with all indices of psychosocial morbidity: suicidality, history of suicide attempts and psychiatric hospitalization, social and work dysfunction, comorbidity with other clinical disorders and impairment in global functioning (Ellison et al., 2016). Finally, Fowler and colleagues (2021) reported a high diagnostic accuracy of the chronic feeling of emptiness as a diagnostic criterion for BPD and included it as one of six "optimized" BPD criteria (others were abandonment fears, unstable interpersonal relationships, identity disturbance, impulsivity and affective instability).

Several factors can account for the paucity of research into the feeling of emptiness. First, a feeling of emptiness has been difficult to define. Patients have been describing their experience in different ways, sometimes referring to its existential aspects (e.g., "feeling a sense of purposelessness") and at other times providing a somatic account of it (e.g., "feeling a hole inside") (Elsner et al., 2018). Secondly, it has not been easy for clinicians and researchers to reach an agreement on the definition of the feeling of emptiness, conceptualizing it alternately as an emotion, a symptom, a defense mechanism or an existential state (Peteet, 2011). Thirdly, there has been a scarcity of assessment instruments for measuring emptiness. To date, most studies of the feeling of emptiness evaluated it via a single item of an instrument such as the Structured Clinical Interview for DSM-IV-II – Personality Questionnaire (First et al., 1997; Rallis et al., 2012) or using subscales of instruments developed for the assessment of others clinical constructs, such as the Borderline Personality Questionnaire (Poreh et al., 2006) or the Mental Pain Questionnaire (Orbach et al., 2003).

Only two published English measures of subjective emptiness are available: the Experienced Levels of Emptiness Scale (ELES; Hazell, 1984) and the Subjective Emptiness Scale (SES; Price et al., 2019). The ELES was not designed for clinical purposes but rather for the assessment of existential aspects of the feeling of emptiness. Although validation of this instrument using a non-clinical sample and a very small clinical sample (5 psychiatric patients) supports the convergent validity of this instrument, discriminant validity was not evaluated. Moreover, the ELES includes construct irrelevant content (e.g. the alexithymia, depersonalization, ect). On the other hand, the SES was constructed using transcripts from patients with BPD and it is specifically designed for clinical purposes. The authors of the SES also provide an operational definition of the feeling of emptiness as a "state of profound hollowness in which the individual feels bereft of fulfillment and connection to the external world" (Price et al., 2019, p. 3).

Considering the lack of instruments for assessing the feeling of emptiness in Italy, this study aimed to develop the Italian version of the SES (SES-I) and test its psychometric properties. We hypothesized the following: a) the SES-I has the same unidimensional structure as the original instrument; b) a significantly greater intensity of the feeling of emptiness will be found in the clinical group than in the non-clinical group; c) the SES-I has good indices of reliability, convergent and divergent validity.

2. Methods

2.1. Participants

A total of 111 individuals participated in the study. They were divided in 2 groups, clinical and non-clinical. The clinical group consisted of 63 psychiatric patients (mean age 44.13±12.49 years, age range 18–65 years; 52.38% men, 47.62% women) recruited from residential, semi-residential and outpatient mental health facilities in two Italian regions (Marche and Tuscany). The exclusion criteria were as follows: a) neurological or serious medical conditions (e.g., diabetes, cancer); b) acute psychotic states; c) developmental delay; d) current substance use disorder; and e) poor knowledge of the Italian language. Participants were informed about research by their psychiatrists.

The non-clinical group comprised 48 healthy participants (mean age 34.13±11.48 years, age range 18–65 years; 27.08% men, 72.92% women). Non-clinical participants included in the study were not diagnosed with psychiatric, neurological or other serious medical conditions. Potential participants were excluded if they did not have a good knowledge of Italian language. Participants were informed about research via social networks (e.g., Facebook, Instagram).

The study was approved by the Ethics Committee for Human Research of Urbino University and by the Ethics Committees of the relevant mental health facilities. All participants signed a consent form and participated voluntarily after the study had been explained to them.

2.2. Measures

Participants were administered 5 self-report instruments: 1) the SES-I, 2) the Personality Inventory for DSM-5 (PID-5), 3) the Millon Clinical Multiaxial Inventory – III (MCMI-III), 4) the Self-Injurious Thoughts and Behaviors Questionnaire – Nonsuicidal (SITBQ-NS), 5) the Beck Depression Inventory – II (BDI-II).

The SES (Price et al., 2019) is a self-report instrument designed to evaluate the subjective experience of the feeling of emptiness. In its final version, the SES has the following 7 items: "I feel alone in the world", "No matter what I do, I still feel unfulfilled", "I feel empty inside", "I feel like I am forced to exist", "I feel as though I am disconnected from the world", "I feel hollow" and "I feel absent in my own life". (A 5-item version of the SES (Price et al., 2020) has been published very recently and after the present study was completed.) Each item is scored on a 4-point Likert scale from 1 (not at all true) to 4 (very true) (Price et al., 2019). The SES has a unidimensional factor structure and was validated in two clinical samples and one non-clinical sample, showing excellent internal consistencies (with α=0.91 in one clinical sample and α=0.93 in another). The Italian version of the SES (SES-I), which was administered in this study, is the subject of the present report.

The Personality Inventory for DSM-5 (PID-5; Krueger et al., 2012) is a 220-item, self-report instrument, scored on a 4-point Likert scale (0=always false; 3=always true). The PID-5 was developed to assess 5 "trait domains" (Negative Affect, Detachment, Antagonism, Disinhibition and Psychoticism) and 25 "trait facets" introduced by the alternative model for personality disorders in the Section III of the DSM-5 (APA, 2013). In the Italian version of the PID-5, internal consistency figures for trait facets ranged from acceptable (α=0.72) to excellent (α=0.96) and for trait domains they ranged from good (α=0.84) to excellent (α=0.96) (Carlotta et al., 2015).

The Self-Injurious Thoughts and Behaviors Questionnaire – Nonsuicidal (SITBQ-NS; D'Agostino et al., 2018) is a 28-item self-report instrument that evaluates nonsuicidal self-injurious (NSSI) ideation and behavior. In addition, the SITBQ-NS assesses the onset of NSSI, recent episodes, contextual use of alcohol or drugs, probability of engaging in NSSI or repeating it and methods and functions of NSSI. The SITBQ-NS yields scores on 3 subscales: self-injurious thoughts (SIT), self-injurious behaviors (SIB) and self-injurious spectrum (SIS). It showed excellent internal consistency (α=0.98) and good convergent validity (D'Agostino et al., 2018).

The Millon Clinical Multiaxial Inventory - III (MCMI-III; Millon, 1994) is a self-report instrument that provides preliminary diagnosis for personality disorders and clinical syndromes. It is composed of 175 true/false items, with scores on 28 scales: 11 Personality Disorders scales, 3 Severe Personality Pathology scales, 7 Clinical Syndrome

scales, 3 Severe Clinical Syndrome scales, and 4 Validity scales. Internal consistency of the scales ranged from a minimum of 0.66 (Compulsive scale) to a maximum of 0.99 (Major Depressive Disorders) (Millon, 1994). In the Italian version of the MCMI-III, internal consistencies were generally good (α > 0.80 for 20 out of 28 scales) (Gritti et al., 2016).

The Beck Depression Inventory (BDI-II, Beck et al., 1996) is a 21-item self-report instrument evaluating the severity of depression. Items are scored on a 4-point Likert scale, from 0 to 3, according to the intensity of the symptoms. The BDI-II provides a unidimensional score. The instrument demonstrated an excellent internal consistency, ranging from 0.91 to 0.93 (Sprinkle et al., 2002). The Italian version of the BDI-II has shown a good internal consistency (α=0.82) (Barcaccia et al., 2018).

2.3. Translation and validation of the SES

2.3.1. Stage 1. Translation and cross-cultural adaptation

The SES was translated into Italian according to the guidelines for cross-cultural adaptation of self-report instruments (Beaton et al., 2000). First, two translators with the target language (Italian) as their mother tongue translated the SES from English to Italian (*forward translation*). The profiles of the translators were different: one had a background in clinical psychology, ensuring equivalence from the measurement perspective, while the other had no background in clinical psychology, ensuring semantic equivalence. Working independently, the translators noted every ambiguous or problematic phrase and produced two different versions: T1 and T2. Second, the two translators compared their translations in the presence of an observer, aiming to reach consensus and thereby created a *synthesis of the translations*: T12. Third, two translators with the original (English) language as their mother tongue independently translated the T12 version back into English. The translators were blind to the original SES, they had no theoretical knowledge of what the instrument was measuring and no background in clinical psychology. They produced two independent versions: BT1 and BT2 (*back-translations)*. Fourth, an expert committee revised all the translated versions (T1, T2, T12, BT1, BT2) in order to achieve a semantic, idiomatic and conceptual equivalence and thus created a pre-final version (*expert committee review*). Finally, the pre-final version was administered to a group of 25 participants (mean age=26), who were invited to leave comments and responses to additional questions about comprehensibility (*pre-testing*). Then, in the phase of *final approval,* after a careful consideration of the comments, the final version was created (SES-I) and the approval from the author of the original version was obtained.

2.3.2. Stage 2. Data analyses and testing psychometric properties

The differences in the SES-I scores between the clinical and non-clinical groups were tested with Wilcoxon rank sum test for independent groups, with power analysis (Lenth, 2001) performed to establish a minimum adequate sample size for group differences. A Principal Component Analysis (PCA) was performed to test the structure of the SES-I on the whole sample ($n = 111$). Internal consistency was evaluated using Cronbach' coefficient α on the whole sample ($n = 111$). In the clinical group, Spearman-Brown non-parametric correlations (ρ) between SES-I scores and scores on other clinical measures were used to test convergent and discriminant validity of the SES-I. Analyses were performed with RStudio version 3.6.1.

3. Results

3.1. Cross-cultural adaptation process

No significant disagreements or issues emerged during the cross-cultural adaptation process. Only during the *synthesis of the translations*, a clarification by the author of the SES (AP) was sought about two items. T1 and T2 versions showed that item 3 ("I feel empty inside") and item 6 ("I feel hollow") were translated with the same word in Italian, losing a slight difference in the meaning in the original version. The author (AP) emphasized that "hollow" in English referred to something with a space or a cavity inside, namely something very physical. Therefore, we modified the Italian translation of item 6 using an expression about the feeling of having a hole inside.

3.2. Characteristics of the clinical and non-clinical groups

Demographic characteristics of the clinical and non-clinical group are presented in Table 1. There were statistically significant differences in age, sex and education between the two groups. Table 2 shows the frequencies of personality disorders and clinical syndromes based on the MCMI-III. There was a variety of psychopathology in the clinical group, with depressive personality disorder being the most frequent personality disorder and anxiety disorder being the most frequent clinical disorder.

3.3. Psychometric properties of the SES-I

The SES-I demonstrated an excellent internal consistency (standardized Cronbach's coefficient α=0.92, calculated on the whole sample of 111 participants).

PCA was conducted on the 7-item SES-I with orthogonal rotation (varimax) considering the whole sample ($n = 111$). The Kaiser-Meyer-Olkin measured the sample adequacy for the analysis KMO=0.88, with all values for individual items >0.84, which is above the acceptance limit of 0.5. Bartlett's test of sphericity (χ^2=549.83, df=21; $p<0.0001$) indicated that correlations between items were sufficiently large for PCA. Analysis of eigenvalues showed only one component with an eigenvalue above 1, and it explained 68% of the variance (for details about factor loading see Table 3).

Power analysis established that the minimum adequate sample size for Wilcoxon rank sum test for independent group was 74 participants (minimum 37 in each group). Parameters used in the power analysis were the following: a) clinical group parameters ($M = 2.56$; SD=1.13) and non-clinical group parameters ($M = 1.38$; SD=0.68) obtained from the original study (Price et al., 2019), b) statistical power β=0.95, c) estimated Cohen's $d = 0.8$. Wilcoxon rank sum test with continuity correction on SES-I score as dependent variable and groups as independent variable was significant ($W = 797$, $p<0.0001$).

Table 1
Frequencies and Fisher's exact test p-value for demographics in clinical and non-clinical group.

	Clinical		Non-clinical		*p*
	n	%	*n*	%	
Gender					
Female	30	47.62	35	72.92	**.0111**
Male	33	52.38	13	27.08	
Marital status					
Single	29	46.03	34	70.83	.1242
Married	21	33.33	10	20.83	
Cohabitee	2	3.17	1	2.08	
Divorced	8	12.70	3	6.25	
Widow	2	3.17	0	0	
Not specified	1	1.59	0	0	
Education					
Middle-school	17	26.98	2	4.17	**<0.0001**
High school	34	53.97	14	29.17	
Professional degree	2	3.17	2	4.17	
Degree	9	14.29	28	58.33	
Post-degree specialization	0	0	1	2.08	
PhD	1	1.59	0	0	
Not specified	0	0	1	2.08	
Self-injury (SITBQ_NS)					
Thoughts	19	30.16	2	4.17	**.0004**
Behaviors	14	22.22	1	2.08	**.0017**

Note. Clinical group $n = 63$; Non-clinical group $n = 48$. Bold for statistically significant p-value.

Table 2
Frequencies of MCMI-III diagnosis in clinical sample.

	Clinical	
	f	%
Personality Disorder		
Schizoid	7	11.11
Avoidant	12	19.05
Depressive	19	30.16
Dependent	9	14.29
Histrionic	3	4.76
Narcissistic	0	0
Antisocial	1	1.59
Aggressive	0	0
Obsessive-compulsive	0	0
Negativistic	8	12.7
Masochistic	5	7.94
Schizotypal	3	4.76
Borderline	4	6.35
Paranoid	1	1.59
Clinical Disorder		
Anxiety disorder	14	22.22
Somatoform disorder	1	1.59
Bipolar disorder	0	0
Dysthymia	5	7.94
Alcohol dependence	0	0
Drug dependence	4	6.35
PTSD	5	7.94
Thought disorder	1	1.59
Major depression	9	14.29
Delusional disorder	3	4.76

Note. $N = 63$. Disorders were counted for MCMI-III base rate >85.

Table 3
Results from PCA analysis of the Subjective Emptiness Scale (SES-I).

PCA item	Component loading 1
1. I feel alone in the world.	**.75**
2. No matter what I do, I still feel unfulfilled.	**.77**
3. I feel empty inside.	**.92**
4. I feel like I am forced to exist.	**.85**
5. I feel as though I am disconnected from the world.	**.83**
6. I feel hollow.	**.73**
7. I feel absent in my own life.	**.90**

Note. $N = 111$. Extraction method was Principal Component Analysis with varimax rotation. Loadings above 0.50 are in bold.

In the clinical group, Rho's Spearman correlations between SES-I score and PID-5 trait facets were calculated, showing significant and positive correlations with Anhedonia, Anxiousness, Depressivity, Distractibility, Eccentricity, Emotional Lability, Hostility, Impulsivity, Perceptual Dysregulation, Perseveration, Restricted Affectivity, Rigid Perfectionism, Separation Insecurity, Submissiveness, Suspiciousness and Withdrawal (see Table 4 for more details). Regarding PID-5 trait domains, there were significant and positive correlations between SES-I score and Negative Affectivity, Detachment, Disinhibition and Psychoticism (see Table 4 for more details).

There were also positive and significant correlations between SES-I score and the following MCMI-III scales: Schizoid, Avoidant, Depressive, Dependent, Passive Aggressive, Self-Defeating, Schizotypal, Borderline, Paranoid, Anxiety, Somatoform, Dysthymia, PTSD, Thought Disorder, Major Depression and Delusional Disorder. In contrast, correlations between SES score and Histrionic and Narcissistic scales from MCMI-III were negative and significant (see Table 5 for more details).

Finally, there were strong and significant correlations between SES score and BDI score ($\rho=0.81$; $p<0.001$) and weak but significant positive correlation between SES score and SIT ($\rho=0.38$; $p<0.05$), SIB ($\rho=0.29$; $p<0.05$) and SIS ($\rho=0.38$; $p<0.05$) from SITBQ-NS.

Table 4
Spearman's Rho correlation between SES score and PID-5.

Facets scale	P		P
Anhedonia	.77**	Irresponsibility	.08
Anxiousness	.67**	Manipulativeness	-.06
Attention seeking	-.01	Perceptual dysregulation	.52**
Callousness	.23	Perseveration	.39*
Deceitfulness	.02	Restricted affectivity	.39*
Depressivity	.81**	Rigid perfectionism	.46**
Distractibility	.50**	Risk taking	.17
Eccentricity	.46**	Separation insecurity	.35*
Emotional lability	.59**	Submissiveness	.31*
Grandiosity	-.01	Suspiciousness	.45**
Hostility	.41**	Unusual beliefs and experiences	.20
Impulsivity	.30*	Withdrawal	.49**
Intimacy avoidance	.20		
Domains scale			
	ρ		ρ
Negative affectivity	.64**	Disinhibition	.40**
Detachment	.58**	Psychoticism	.44**
Antagonism	-.04		

Note. $N = 63$.
** $p<0.001$,.
* $p<0.05$.

Table 5
Spearman's Rho correlation between SES score and MCMI-III.

	P		P
Personality disorders		Clinical disorders	
Schizoid	.46**	Anxiety	.73**
Avoidant	.47**	Somatoform	.41**
Depressive	.67**	Bipolar: Maniac	.24
Dependent	.45**	Dysthymia	.68**
Histrionic	-.50**	Alcohol dependence	.08
Narcissistic	-.41**	Drug dependence	.03
Antisocial	.12	PTSD	.65**
Aggressive (Sadistic)	.24	Thought disorder	.75**
Compulsive	-.05	Major depression	.55**
Passive-Aggressive	.62**	Delusional disorder	.17
Self-defeating	.56**		
Schizotypal	.52**		
Borderline	.61**		
Paranoid	.52**		

Note. $N = 63$.
** $p<0.001$, *$p<0.05$.

4. Discussion

This study focused on the cross-cultural adaptation and psychometric properties of the SES-I in clinical and non-clinical populations. Cultural adaptation principles were applied when creating the SES-I, which seems suitable for use in mental health research and services in Italy.

The SES-I has a unique and robust unidimensional structure, which reflects the core feature of the feeling of emptiness: a pervasive and visceral sense of detachment experienced in intrapersonal, interpersonal and existential domains. Such structure of the SES-I is consistent with the one reported for the original SES by Price and colleagues (2019).

Supporting the construct validity of this measure, clinical (patient) scores on the SES-I were significantly higher than those of the non-clinical group. This finding suggests that prominent feelings of emptiness mainly characterize clinical populations, although such feelings can also be found in non-clinical populations.

Regarding the psychometric properties of the SES-I, the instrument shows an excellent internal consistency, similar to the original version (Price et al., 2019). The convergent validity of the SES-I is supported by three findings, as specified below.

First, there was a significant and positive correlation between SES-I scores and BPD scale of the MCMI-III. This finding supports the

convergent validity of the SES-I because the feeling of emptiness is one of the diagnostic criteria for BPD (APA, 2013).

Second, there were positive and significant correlations between SES-I scores and all trait facets (Emotional Lability, Anxiousness, Separation Insecurity, Submissiveness, Hostility, Perseveration, Depressivity, Suspiciousness and Restricted Affectivity) from the trait domain of Negative Affectivity on the PID-5. This relationship between a feeling of emptiness and the Negative Affectivity domain also supports the convergent validity of the SES-I because the feeling of emptiness was conceptualized as a "state of low positive affect" (Rallis et al., 2012, p. 288).

Third, significant and positive correlations were found between SES-I scores and all the measures of depression: BDI-II, Depressivity subscale of the PID-5 and Major Depression subscale of the MCMI-III. These findings provide support to the convergent validity of the SES-I because the feeling of emptiness is often related to the experience of depression (D'Agostino et al., 2020; Kernberg, 1975; Klonsky, 2008; Rhodes et al., 2019; Westen et al., 1992).

The divergent validity of the SES-I is supported by the lack of statistically significant correlations with almost all trait facets (Manipulativeness, Deceitfulness, Grandiosity, Attention Seeking and Callousness) from the trait domain of Antagonism on the PID-5. This lack of association supports the divergent validity of the SES-I because the Antagonism domain is related to interpersonal behaviors that "put the individuals at odds with other people" (APA, 2013, p. 780), while the feeling of emptiness is more often related to disconnection from others and loneliness (D'Agostino et al., 2020; Price et al., 2019).

Another important finding is the association between the SES-I score and NSSI. The feeling of emptiness correlated with both NSSI ideation and behaviors, with a stronger correlation with NSSI ideation. This could indicate that a feeling of emptiness could be related to thoughts about NSSI more than to the behavioral aspects of NSSI. Moreover, there were weak or null correlations with instruments assessing impulsivity and acting-out behaviors: Impulsivity and Risk Taking trait facets (subscales) of the PID-5 and Drug Dependence and Alcohol Dependence subscales of the MCMI-III. These findings suggest that the feeling of emptiness may be less "action-oriented" feature of internalizing psychopathology, especially if that action involves self-harm, loss of control and/or externalizing behaviors (Konjusha et al., 2021).

Finally, the negative correlations between SES-I and MCMI-III Narcissistic scale was unexpected, since different authors reported a feeling of emptiness in narcissistic personality disorder (D'Agostino et al., 2020; Kernberg, 1975; Svrakic, 1985). This could be explained by a limit in the MCMI-III Narcissistic subscale, that appears to be a measure of healthy ego functioning states, thus showing high scores more frequently in non-clinical populations (Craig, 2005).

The study has a number of limitations. The sample size was relatively small and there were significant differences between the clinical and non-clinical groups in terms of age, gender and education, which complicates the interpretation of other significant differences between the two groups. Moreover, the clinical group was diagnostically heterogeneous. While the unidimensional structure of the SES (Price et al., 2019) can be useful for identification of the core features of the feeling of emptiness, it may be a hindrance when trying to understand different ways of experiencing this feeling (D'Agostino et al., 2020).

Further studies should strive to overcome these limitations. We also suggest modifications of the SES-I, with the aim of capturing the complexity of the feeling of emptiness. Thus, more items could be added to the SES-I, yielding a multidimensional instrument with different subscales measuring various components of the feeling of emptiness. Similar to the tripartite definition developed by Price et al., (2020); D'Agostino et al., (2020) proposed assessment of three components of the feeling of emptiness: 1) a physical or bodily experience of emptiness; 2) emptiness as a feeling of aloneness or social disconnectedness; and 3) emptiness experienced as a deep sense of personal unfulfillment or lack of purpose.

In conclusion, the present study was able to replicate the main findings of the original validation study of the SES. In addition, it brought an improvement to the validation process of the SES in terms of recruiting a clinical sample from a mental health service and including additional measures of clinically relevant constructs (e.g., NSSI thoughts and behaviors) in the validation process. Another contribution of this study is a demonstration of the lack of a significant relationship between the feeling of emptiness and self-harming behavior, impulsivity or acting-out. Given its excellent psychometric properties, the SES-I appears to be a useful self-report tool for assessment of the feeling of emptiness in Italy. This should help clinicians better understand this complex phenomenon. However, we suggest modifications of the SES-I to capture the complexity of the feeling of emptiness and further improve our understanding of it.

Contributors

AD, RP and MRM conceived and designed the study, with substantial contribution from the other authors. AD and RP collected, analyzed, and interpreted data. MRM and VS supervised the whole work. AP was consulted during the validation process and data analysis. All authors substantially participated in the preparation of the final manuscript, which was approved by all authors.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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