

The role of hopelessness and meaning in life in a clinical sample with non-suicidal self-injury and suicide attempts

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Abstract

Background: Non-suicidal self-injury (NSSI) and suicide attempts (SA) lie on a continuum of self-harm, and literature has shown that patients with suicidal intent constitute a more severe group. **Method:** This study aimed to explore differences in the facets of hopelessness (Beck Hopelessness Scale) and meaning in life (Purpose in Life Test) in a clinical sample of 150 patients with a diagnosis of a mental disorder with: a) no NSSI/SA, b) only NSSI, or c) SA/NSSI and SA. **Results:** The results showed statistically significant differences between the groups in the affective dimension, but they showed similar levels of meaning in life in both groups. **Conclusion:** These findings highlight that affective hopelessness can lead to suicide attempts, and that meaning in life underlies the continuum of self-harm. Implications for psychotherapeutic interventions are discussed.

Keywords: Hopelessness, meaning in life, non-suicidal-self-injury, suicide-attempts.

Resumen

El papel de la desesperanza y el sentido de la vida en una muestra clínica con autolesiones no suicidas e intentos suicidas. **Antecedentes:** las autolesiones no suicidas y los intentos de suicidio se sitúan en el continuo de las conductas autolesivas, en el que los pacientes con una historia de intentos de suicidio constituyen el grupo de mayor gravedad. **Método:** en este trabajo nos planteamos explorar diferencias en desesperanza y sus distintas facetas (Escala de Desesperanza de Beck), así como en sentido de la vida (Purpose in Life Test) en una muestra clínica compuesta por 150 pacientes con un diagnóstico de trastorno mental: a) sin autolesiones no suicidas ni intentos de suicidio, b) únicamente con autolesiones no suicidas o c) con intentos de suicidio/ambos tipos de conductas. **Resultados:** los resultados mostraron diferencias estadísticamente significativas entre los grupos en desesperanza afectiva y niveles similares en sentido de la vida. **Conclusiones:** estos resultados subrayan que la desesperanza afectiva se relaciona con los intentos suicidas, y que los niveles bajos de sentido de la vida están a la base de las conductas autolesivas. Se discuten las implicaciones terapéuticas derivadas de estos resultados.

Palabras clave: desesperanza, sentido de la vida, autolesiones no suicidas, intentos suicidas.

Non Suicidal Self-injury (NSSI) consists of any deliberate self-inflicted damage to the surface of the body that is likely to induce bleeding, bruising, or pain, but with no suicidal intent and for purposes that are not socially sanctioned. It includes methods that involve skin cutting, burning, stabbing, hitting, scraping, or carving, among others (Klonsky, Muehlenkamp, Lewis, & Walsh, 2011).

Due to its inclusion in the Diagnostic and Statistical Manual of Mental Disorders - 5th edition ([DSM-5] American Psychiatric Association [APA], 2013) and the rising prevalence of self-harming behaviours in clinical and adolescent populations (Olfson, Gameroff, Marcus, Greenberg, & Shaffer, 2005), studies on NSSI have increased in the past decade. Different authors have emphasized correlates between NSSI and suicide attempts (SA) and their relationships with different psychopathological variables,

such as depressive symptoms, hopelessness, suicide risk factors, impulsivity, emotional deregulation, or suicidal ideation, among others (Andover, Primack, Gibb, & Pepper, 2010; Guan, Fox, & Prinstein, 2012; Nock & Prinstein, 2004). However, although NSSI and SA seem to lie on a continuum of self-harm, literature in this field has shown that self-injuring patients with suicidal intent differ from patients who have not attempted suicide, with greater severity and psychopathology found in the former (e.g., Pérez, Marco, & García-Alandete, 2014). Additionally, studies comparing patients who engaged only in NSSI to those with only SA found that the latter showed more severe symptoms, greater hopelessness, and more depression (Hamza, Stewart, & Willoughby, 2012). In adolescent populations, these two groups differ in their attitudes toward life and attraction to life, with NSSI even considered a strategy that produces feelings of being alive (e.g., Muehlenkamp & Gutiérrez, 2007).

Hopelessness is considered one of the most consistent and robust risk factors of suicide thoughts and attempts (Klonsky, May, & Saffer, 2016), and it has been defined as negative expectations about the future that lead suicidal patients to believe that suicide is the only feasible strategy for dealing with their problems (Beck,

Weissman, Lester, & Trexler, 1974). Beck and colleagues (1974) found three types of hopelessness: affective hopelessness, related to hope, enthusiasm, faith and happiness; motivational hopelessness, related to giving up; and cognitive hopelessness, referring to negative expectations about the future. Although a large number of studies attempting to better understand hopelessness have focused on a unidimensional construct (e.g., Hanna et al., 2011), recent research has found strong support for Beck et al.'s original conceptualization with three dimensions (Boduszek & Dzingra, 2015; Lliceto & Fino, 2015).

Some recent research from a positive psychology perspective has shown interest in studying meaning in life as a buffering factor against suicide (Kleiman & Beaver, 2013). Definitions of meaning in life have included coherence in life and sense of fulfillment, goal directedness, or sense of purpose. Some studies examining the relationship between meaning in life and psychopathology have shown that low levels of meaning in life are associated with mental disorders, addictive disorders, depression, hopelessness, and suicide (e.g., Kleiman & Beaver, 2013). Recently, Marco, García-Alandete, Pérez, & Botella (2014) found that meaning in life mediated the relationship between depression and hopelessness in borderline personality disorder (BPD) patients, and that meaning in life was related to the psychopathology of BPD (Marco, Pérez, García-Alandete, & Moliner, 2017). Moreover, NSSI at baseline, depression, hopelessness, and meaning in life significantly predicted the frequency of NSSI at one-year follow-up in a recent study (Marco et al., 2015), and life satisfaction and meaning in life were found to be protective factors against NSSI in college students (Kress, Newgent, Whitlock, & Mease, 2012).

To the best of our knowledge, there is still a lack of research on differences in meaning in life among patients with NSSI, patients with SA, and people without these behaviours. Moreover, it is unclear whether meaning in life is a construct underlying the full continuum of self-harm and suicide or a specific characteristic that declines with the severity of self-harm and suicide behaviours. Additionally, most of the studies that have compared hopelessness in self-harm groups (e.g., Hamza et al., 2012) have analysed differences in total scores, without exploring whether a specific dimension of this variable is associated with more severe suicidal behaviours. Finally, the relationship between meaning in life and hopelessness has been found to be negative (e.g., García-Alandete et al., 2009), but it is not known whether these two constructs are opposite sides of the same coin or distinct concepts differentially related to self-harm behaviours.

For this reason, the purpose of this study was, first, to explore differences in demographic and clinical characteristics, hopelessness, and meaning in life in a clinical sample of adult outpatients with NSSI and/or SA behaviours in the previous year. We focused specifically on the similarities or differences in the role of each of these constructs in NSSI and SA. To do so, the sample was divided into three subgroups: patients without NSSI or SA, those with only NSSI, and those with SA or SA and NSSI. To our knowledge, no studies have compared these three groups on meaning in life and the three components of hopelessness, affective, cognitive and motivational, in a broad sample of clinical outpatients.

Based on previous research, the present study hypothesized that the groups with a history of SA would exhibit greater hopelessness severity (affective, motivational, and cognitive) than the groups without SA (only NSSI and no NSSI/no SA groups). Moreover, we hypothesized that hopelessness would be a more prominent

characteristic of the NSSI group, compared to the no NSSI/no SA group. Additionally, we expected to find lower levels of meaning in life -and its subscales- in self-harm groups than in the no NSSI/no SA group, with the lowest levels in suicide attempters.

Methods

Participants

The sample was recruited at the outpatient unit of six public and private mental health services in Spain that provide multidisciplinary short- and long-term treatment for psychiatric disorders. Participants were consecutively recruited between January 2013 and December 2015, and they were only excluded from the study if they showed intellectual disability.

The inclusion criteria included patients between 18-60 years old who met the DSM-IV-TR diagnostic criteria for any mental disorder (APA, 2000). Participants were European Whites, and all of them understood Spanish perfectly. In the context of voluntary participation, 192 participants were initially approached, but 42 refused to participate. Patients signed an informed consent before being evaluated, and they received no compensation for their participation. The study procedures were approved by the ethical committees of the hospitals.

Instruments

Non-Suicidal Self-Injury (NSSI). It was conceptualized as intentional self-injurious behaviour with no suicidal intent. The number of NSSI behaviours in the past year was assessed with the following self-administered questions: "Have you ever caused yourself any self-directed and deliberate injuries such as cutting, hitting, scratching, etc. with no suicidal intent? (yes-no). How many times/days have you caused yourself such injuries in the past year?"

Suicidal Attempts (SA). They were conceptualized as self-inflicted, potentially injurious behaviours with a non-fatal outcome, but with evidence of the intention to die. The number and type of suicide behaviours in the past year were assessed with the following self-administered questions: "Have you ever tried to end your life? (yes-no). Can you explain what methods you used to try to end your life? How many times have you attempted suicide in the past year?". The responses related to methods were categorized by clinical psychologists.

The number of suicide attempts in their lifetime, but not in the previous year, and the number of years since the diagnosis of a mental disorder were obtained from medical charts.

Diagnosis Structured Clinical Interview for DSM-IV-TR Axis I Disorders (SCID I; First et al., 2005). This is an interview for making the major DSM-IV-TR (APA, 2000) Axis I diagnoses.

Beck Hopelessness Scale (BHS; Beck et al., 1974). This is a 20-item self-administered scale with three subscales: 1) Feelings about the future, associated with affective hopelessness, hope, and enthusiasm; 2) Loss of motivation, related to motivational hopelessness and giving up; 3) Future expectations, related to cognitive hopelessness, and including expectations about future life. This scale has been validated in the Spanish population (Viñas et al., 2004). In our data, the internal consistency was adequate for the total score, $\alpha = .91$, and for the subscales: BHS-affective ($\alpha = .82$), BHS-motivational ($\alpha = .86$), and BHS-cognitive ($\alpha = .68$).

Purpose In Life-10 (PIL-10) (García-Alandete, Rosa, & Sellés, 2013). This self-administered scale is a reduced Spanish version of the PIL (Crumbaugh & Maholick, 1969), composed of a 10-item Likert scale, with higher scores indicating greater meaning in life. The PIL-10 has two subscales: a) Life satisfaction and meaning in life and b) Life goals and purposes. The PIL-10 offered good psychometric properties and high reliability. In our sample, adequate internal consistency was found for the global scale ($\alpha = .91$), for Satisfaction and meaning in life ($\alpha = .89$), and for Life goals and purposes ($\alpha = .84$).

Procedure

Patients were assessed individually in three different sessions in order to establish the diagnosis of mental disorders using the semi-structured clinical interview and diagnostic criteria from the DSM-IV-TR (APA, 2000), confirmed by the SCID-I (First et al., 2002). Sample selection and participant evaluations were all performed by clinical psychologists.

Data analysis

The sample was divided into three subgroups based on the presence or absence of NSSI and suicide attempts in the previous year. The first group consisted of subjects without NSSI or SA; the second group consisted of subjects with NSSI alone; and the third group was composed of subjects with SA, with or without NSSI. Despite the different sub-sample sizes (see results section), the decision was made to perform the comparisons, based on their clinical interest.

The estimation of descriptive statistics, ANOVAs, the Kruskal-Wallis test for non-normally distributed variables, the chi-squared test for categorical variables, and post-hoc tests (Bonferroni's test for the variables that showed a normal distribution, and the Mann-Whitney U test with Bonferroni's correction for the variables that showed a non-normal distribution) were used to compare differences between groups on demographic, clinical, and

psychological measures. All the analyses were performed using SPSS 23.0 for Windows (SPSSv23, Chicago, IL).

Results

In all, 150 patients, 84% ($n = 126$) women, with a mean age of 33.26 ($SD = 11.07$; range 18-60), completed the study. The length of time since diagnosis was 1-35 years ($M = 12.62$, $SD = 7.74$). As for the participants' educational level, the majority had secondary (37.6%, $n = 56$) or higher education (34.9%, $n = 52$) studies. Regarding marital status, the majority were single, separated, or divorced (78.0%, $n = 117$).

Half of the participants, 50.7% ($n = 76$), met Eating Disorder criteria; 10% ($n = 15$) Substance Dependence; 12.7% ($n = 19$) Major Depressive Disorder; 12.7% ($n = 19$) Schizophrenia; 3.4% ($n = 5$) Anxiety Disorders; and 10.7% ($n = 16$) other mental disorders (4 dissociative disorders, 2 body dysmorphic disorder, 1 explosive intermittent disorder, 3 bipolar disorder, 6 affective disorders not otherwise specified).

A group of $n = 85$ participants had never attempted suicide or NSSI; $n = 38$ participants had self-injured in the previous year without attempting suicide (G2); and $n = 27$ had attempted suicide in the previous year with or without NSSI (G3).

In the entire sample, 58.3% ($n = 90$) had a history of at least one suicide attempt, with an average of 1.86 attempts ($SD = 2.74$). Fifty-one patients had attempted suicide during the past year (20.2%, $M = 0.38$, $SD = 1.00$), and 82 (65.2%) patients had self-injured at least once in the previous year ($M = 7.81$, $SD = 42.29$).

Differences between groups on demographic, clinical, and psychological variables

The three groups did not differ on age, marital status, or educational level, whereas there were gender differences in all of them, with a larger percentage of women (Table 1). ANOVAs did

Table 1
Comparisons in demographic characteristics between groups

N = 150	G1 no NSSI/no SA (n = 85)	G2 NSSI (n = 38)	G3 SA and NSSI+SA (n = 27)	F	p
	M (SD)	M (SD)	M (SD)		
Age	34.38 (11.93)	29.39 (10.32)	34.33 (9.80)	2.80	.064
	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	χ^2	<i>p</i>
Gender				9.64**	.008
Women	67 (78.8%)	38 (100%)	21 (77.8%)		
Marital status				0.11	.95
Single	51 (60%)	23 (60.5%)	15 (55.6%)		
Married/partner	18 (21.2%)	7 (18.4%)	8 (29.6%)		
Separated	9 (10.6%)	5 (13.2%)	2 (7.4%)		
Divorced	7 (8.2%)	3 (7.9%)	2 (7.4%)		
Education				0.96	.62
Low-skilled	4 (4.7%)	2 (5.3%)	8 (29.6%)		
Prim. education	19 (22.4)	9 (23.7%)	0 (0%)		
Sec. education	30 (35.3%)	17 (44.7%)	9 (33.3%)		
College graduate	32 (37.6%)	10 (26.3%)	10 (37.0%)		

Note: SA: suicide attempters; NSSI: non-suicidal self-injury; Prim. Education: primary education; Sec. Education: secondary education
M = media; SD = standard deviation; F = Fisher test; p = p-value

not show statistically significant differences between groups in the number of years since the first diagnosis of a mental disorder (Table 2). However, the groups differed in the number of lifetime suicide attempts ($F(147) = 13.14, \eta_p^2 = .16, p < .001$), with a higher presence of suicide history in the SA/NSSI+SA group (G3) than in the other groups (G1: Bonferroni: $p < .001$, G2: Bonferroni: $p < .001$) (see Table 2).

Groups differed on the level of meaning in life and on the meaning and satisfaction and life goals and purposes subscales. Specifically, higher levels were observed in the No NSSI/no SA group, compared to the other two groups, on the general PIL score ($F(147) = 11.87, \eta_p^2 = 0.17, p < .001$) and on the life satisfaction and meaning subscale ($F(147) = 15.02, \eta_p^2 = 0.20, p < .001$). On the life goals and purposes subscale, the No NSSI/no SA group obtained higher scores than the SA group ($F(147) = 5.64, \eta_p^2 = 0.09, p = .005$), but not higher than the NSSI group ($p = .176$).

Regarding hopelessness, statistically significant differences were observed between groups ($K-W(2) = 21.92, \eta_p^2 = .20, p < .001$), with higher hopelessness in patients with SA/NSSI+SA ($p < .001$) and those with NSSI ($p = .003$), compared to those with no SA/NSSI (G1). Additionally, the SA/NSSI+SA group showed higher levels of hopelessness than the only-NSSI group ($p = .016$). When BHS subscales were compared, differences among the three groups were found (BHS-affective: $K-W(2) = 11.55, \eta_p^2 = .13, p < .003$; BHS-motivational: $K-W(2) = 27.10, \eta_p^2 = .23, p < .001$; BHS-cognitive: $K-W(2) = 13.54, \eta_p^2 = .12, p = .002$). The Mann-Whitney U test with Bonferroni's post-hoc correction showed statistically significant differences between the SA/NSSI+SA group (G3) and the other two groups in BHS-affective (G2: $p = .008$, G1: $p < .001$). For BHS-motivational, the no NSSI/no SA group

(G1) showed lower levels than the NSSI group (G2: $p = .001$) and the SA/NSSI+SA group (G3: $p < .001$). The same pattern was found for BHS-cognitive, with lower levels in the no NSSI/no SA group (G1) than in the other two groups (G2: $p = .015$; G3: $p = .001$).

Discussion

In the current study, differences in demographic and clinical variables, hopelessness, and meaning in life were explored in a clinical sample of 150 patients with different diagnoses of mental disorders, with and without NSSI and SA behaviours in the previous year. The majority of the sample (58%) had a history of suicide attempts, and 65% had self-injured in the previous year.

Our results revealed that levels of hopelessness were higher in the NSSI and SA/SA+NSSI groups than in the no NSSI/no SA group. Additionally, the group that had attempted suicide showed more hopelessness than the group that had only self-injured, thus showing that suicide attempts were related to higher levels of hopelessness, agreeing with previous studies (e.g., Anestis & Joiner, 2011). These findings highlight that hopelessness is linked to behaviours on the self-harm continuum, but as hopelessness increases, the risk of more severe suicidal behaviours becomes stronger. Moreover, we could argue that, specifically, the affective component of hopelessness differentiated between the NSSI and SA groups. In other words, people who have attempted suicide have lost their hope and enthusiasm and are no longer capable of feeling positive about the future, whereas patients who self-injure still seem to feel some kind of hope. However, in our study, both the NSSI and SA patients seem to have no expectations about the future (cognitive component of hopelessness), they do not think

Table 2
Comparison of clinical and psychopathological variables between patients with and without NSSI and SA

N = 150	G1 no NSSI/ no SA (n = 85)	G2 NSSI (n = 38)	G3 SA and NSSI+SA (n = 27)	F/K-W*	p	η_p^2	Post-hoc
	M (SD)	M (SD)	M (SD)				
PIL-10	42.61 (13.50)	32.89 (12.28)	31.15 (12.83)	11.87	.001	.17	G1>G2, G3
PIL-meaning	23.38 (8.60)	15.95 (7.55)	16.22 (7.22)	15.02	.000	.20	G1>G2, G3
PIL-goals	19.22 (5.77)	16.95 (6.50)	14.93 (6.62)	5.64	.002	.09	G1>G3
BHS	6.08 (5.13)	8.63 (4.56)	11.74 (5.86)	21.92*	.001	.20	G1<G2, G3; G2<G3
BHS-affective	0.79 (1.26)	0.87 (1.32)	2.15 (1.93)	11.55*	.003	.13	G1, G2<G3
BHS-motivational	2.26 (2.43)	4.00 (2.65)	5.18 (2.43)	27.10*	.001	.23	G1<G2, G3
BHS-cognitive	2.53 (1.54)	3.24 (1.36)	3.63 (1.60)	13.54*	.001	.12	G1<G2, G3
SA lifetime	1.35 (2.13)	1.32 (1.76)	4.11 (4.1)	13.14	.001	.16	G3>G2, G1
Years diagnosis	12.03 (7.5)	12.62 (8.7)	14.64 (6.98)	0.57	.56	.01	-

Note: NSSI = non-suicidal self-injury; SA = suicide attempts; PIL-10 = Purpose in Life Scale-10; PIL-meaning = PIL-10 subscale meaning and purpose; PIL-10 goals = PIL-10 subscale goals and vital purposes; BHS = Beck Hopelessness Scale; SA lifetime = suicide attempts lifetime; Years diagnosis = years from the diagnosis of mental disorder

M = media; SD = standard deviation; F = Fisher test; p = p-value; K-W = Kruskal-Wallis test; η_p^2 = partial η^2

* values of Kruskal-Wallis test. Post-hoc tests: Bonferroni's test or Mann-Whitney U test with Bonferroni's correction

life is going to change, and they do not have the confidence to follow their goals (motivational component of hopelessness). As other authors have stated, hope influences expectations, but it is a distinct and multifaceted, cognitive, embodied, and highly existential experience (Mattingly, 2010). Some recent studies have linked meaning in life, hope and hopelessness, and suicide ideation. For example, Dogra, Basu, and Das (2011) found that reasons for living and meaning in life negatively predicted suicidal ideation and positively predicted hope among college students, and Huen, Ip, Ho, and Yip (2015) showed a significant moderating effect of hope in the association between hopelessness and suicidal ideation in a community sample.

Second, patients without suicide attempts or NSSI showed higher levels of meaning in life, life satisfaction and meaning, and life goals and purposes than patients with a history of any type of self-harm behaviour. Moreover, there were no differences in meaning in life found between the group with NSSI and the group with SA with or without NSSI. This finding suggests that feeling that one's life is valuable and being oriented toward meaningful goals and purposes are protective factors against NSSI and suicide attempts. Therefore, meaning in life could be considered a variable underlying the continuum of self-harm in our sample, and not only linked to suicide acts. To date, no studies have explored differences in meaning in life between patients with NSSI and/or SA in a clinical sample of adults with mental disorders. Coinciding with our findings, previous research has found meaning in life to be a protective factor against future NSSI in a BPD sample (Marco et al., 2015). Although the construct of reasons for living is considered different from, but related to, meaning in life, Muehlenkamp and Gutiérrez (2007) found that adolescents with NSSI and SA showed fewer reasons for living than adolescents who had only been involved in NSSI. These divergent results could be due to differences in the samples and constructs studied. Reasons for living refers to present values and beliefs about life and one's ability to deal with life, whereas meaning in life is a broader construct consisting of a past-oriented evaluation of life satisfaction and a future-oriented focus on life goals and purposes. In our sample of adult patients with mental disorders, the conceptualization of past life as worthless was equally negative in NSSI patients and suicide attempters. Likewise, a life without purpose and goals is similarly associated with both

self-harm behaviours. Thus, working on re-evaluating past life, helping patients to rebuild and grow from adversity, and finding future goals and purposes could be targets in psychotherapeutic interventions with patients who engage in self-harm.

Considering the results related to hopelessness and meaning in life together, we could argue that meaning in life plays a different role from hopelessness, given that only the latter differentiated between the NSSI and SA groups, specifically its affective component. For this reason, future studies should explore the role of affective hopelessness, hope, and faith in the development of non-suicidal self-injury and suicide attempts.

Finally, our results revealed that the group with NSSI and SA showed more lifetime suicide attempts, agreeing with Hamza et al. (2012). These findings indicate that suicide history is a risk factor for future suicide attempts, coinciding with previous research (e.g., Oquendo et al., 2004).

This study has some limitations that should be considered. First, NSSI was assessed with open-ended questions. Consequently, we did not use standardized clinical interviews or validated self-report questionnaires that included functions of NSSI. Therefore, information on the form of NSSI or the distress related to NSSI was not collected. Future studies should address this limitation by using validated self-report instruments such as the Inventory of Statements About Self-injury-ISAS (Klonsky & Glenn, 2009). Second, the sample size was small in the subgroups, thus decreasing the power needed to find significant differences between groups; therefore, the results should be interpreted with caution. Additionally, although robust tests were used when normality was not met, the sample sizes of the subgroups were not homogeneous. Thus, future research should make comparisons with a larger sample of patients who have attempted suicide and NSSI. Third, the heterogeneity of evidence related to the tri-factor structure of the Beck Hopelessness Scale makes it necessary to replicate our results. Fourth, a large percentage of our sample was composed of patients with eating disorders; therefore, future research should replicate our results in a broader sample with a larger representation of patients with diagnoses of other mental disorders. Finally, as we did not assess levels of depression or the presence of a BPD diagnosis, the role of these variables in levels of meaning and life and hopelessness could not be explored. Future research should explore these relationships.

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