

Gender differences in adolescents with suicidal behaviour: Personality and psychopathology

Villar-Cabeza, F.^{1,2}, Lombardini, F.¹, Sánchez-Fernández, B.^{1,2}, Vila-Grifoll, M.^{1,2}, Esnaola-Letemendia, E.¹, Vergé-Muñoz, M.¹, Navarro-Marfisis, MC.³, & Castellano-Tejedor, C.^{4,5}

¹Child and Adolescent Psychiatry and Psychology Department, Hospital Sant Joan de Déu de Barcelona (Spain)

²Department of Psychiatry and Legal Medicine. Universitat Autònoma de Barcelona (Spain)

³Parc Sanitari Sant Joan de Déu, Doctor Antoni Pujadas 42, 08830 Sant Boi de Llobregat (Spain)

⁴GIES research group. Basic Psychology Department, Autonomous University of Barcelona, Bellaterra, Barcelona (Spain)

⁵RE-FiT Barcelona research group. Parc Sanitari Pere Virgili (PSPV). Vall d'Hebron Institute of Research (VHIR). Barcelona (Spain)

Abstract

This study evaluates the relationship between gender, personality, psychopathology and suicidal behaviour among adolescents. For this purpose, a cross-sectional study with adolescent inpatients (N = 92) displaying suicidal behaviour was designed. Sociodemographic characteristics and data related to suicidal behaviour were collected. In addition, personality and clinical severity were assessed by administering the Millon Adolescent Clinical Inventory (MACI). Results revealed that the most prevalent personality dimensions for both genders were Introversive, Self-demeaning, Doleful, Oppositional, Borderline tendency and Inhibited. However, men scored higher in Inhibited ($p = 0.02$, Cohen's $d = 0.45$) and women in Egotistic ($p = 0.03$, Cohen's $d = 0.40$). Concerning clinical severity of syndromes, women scored higher in Delinquent Predisposition ($p = 0.04$, Cohen's $d = 0.45$) and men in Anxious Feelings ($p = 0.02$, Cohen's $d = 0.51$), Depressive Affect ($p = 0.04$, Cohen's $d = 0.41$) and Suicidal Tendency ($p = 0.03$, Cohen's $d = 0.37$), with men reporting more frequently Childhood Abuse ($p < 0.001$, Cohen's $d = 0.70$). Results highlight the importance of universal interventions to promote a change in attitudes towards seeking psychological help, specially in men, and the need to design effective tailored treatments to acquire emotional management skills for both genders.

Keywords: suicide, suicidal behaviour, adolescence, personality, gender differences.

Resumen

Diferencias de género en adolescentes con conducta suicida: Personalidad y psicopatología. Este estudio evalúa la relación entre el género, la personalidad, la psicopatología y la conducta suicida entre los adolescentes. Para ello, se diseñó un estudio transversal con adolescentes hospitalizados (N = 92) que presentaban conductas suicidas. Se recogieron características sociodemográficas y datos relacionados con la conducta suicida. Además, se evaluó la personalidad y la gravedad clínica mediante la administración del Inventario Clínico de Adolescentes de Millon (MACI). Los resultados revelaron que las dimensiones de personalidad más prevalentes para ambos géneros fueron Introversivo, Auto-punitivo, Pesimista, Oposicionista, Tendencia límite e Inhibido. Sin embargo, los hombres puntuaron más alto en Inhibido ($p = 0,02$, d de Cohen = 0,45) y las mujeres en Egocéntrica ($p = 0,03$, d de Cohen = 0,40). En cuanto a la gravedad clínica de los síndromes, las mujeres puntuaron más alto en Predisposición Delictiva ($p = 0,04$, d de Cohen = 0,45) y los hombres en Sentimientos Ansiosos ($p = 0,02$, d de Cohen = 0. 51), Afecto Depresivo ($p = 0,04$, d de Cohen = 0,41) y Tendencia Suicida ($p = 0,03$, d de Cohen = 0,37), y los hombres informaron con mayor frecuencia de Abuso en la Infancia ($p < 0,001$, d de Cohen = 0,70). Los resultados ponen de manifiesto la importancia de las intervenciones universales para promover un cambio de actitud hacia la búsqueda de ayuda psicológica, especialmente en los hombres, y la necesidad de diseñar tratamientos eficaces a medida para adquirir habilidades de gestión emocional para ambos géneros.

Palabras clave: suicidio, conducta suicida, adolescencia, personalidad, diferencias de género.

Corresponding author:

Francisco Villar Cabeza.

Suicidal Behavior Program, Child and Adolescent Psychiatry and Psychology Department, Hospital Sant Joan de Déu, Barcelona, Spain.

Passeig Sant Joan de Déu, 2, 08950. Esplugues de Llobregat.

E.mail fvillar@sjdhospitalbarcelona.org

Introduction

Worldwide, more than 800,000 people die from suicide every year (World Health Organization, 2016). Gender has been pointed out as one main sociodemographic factor directly related to differences found in suicidal behaviour (Freeman et al., 2017). Several studies show that in most countries, suicide attempts are two to three times more frequent in women, even though three out of every four deaths by suicide occur in men (Elnour & Harrison, 2008; Freeman et al., 2017; INE, 2020; Miranda et al., 2019; WHO, 2014). This phenomenon has been conceptualised as the gender paradox (Canetto & Sakinofsky, 1998). However, this concept is still controversial because it is not universal. Although it partially reflects Western reality, gender differences vary widely depending on other factors, such as socio-economic and cultural factors. In low-middle income countries it is estimated that, men die by suicide in a ratio of 1,5 for each woman (OPS, 2021). However, there are countries in the Asian continent in which deaths by suicide in women are higher than those of men; therefore, reinforcing the influence of cultural differences on suicidal behaviour (Canetto et al., 1998; Canetto, 2008; Counts et al., 1980; OPS, 2021). All this research suggests that this field is quite complex as differences might not be just cultural or gender-based, but also based on how these factors converge with other developmental and socioeconomic variables. In this sense, the mortality rates for adults in Spain also reflect the same reality as three out of every four deaths by suicide occur in men (INE, 2020). This proportion has also been seen in adolescents who are 15 years old or older, however, this does not seem to happen in individuals under the age of 15 years old. Additionally, in 2014 and 2017, Spanish reports on mortality by suicide pointed out that under the age of 15, more women died by suicide than men. However, in 2020, the same number of women and men died by suicide (INE, 2020). Consequently, this data doesn't follow the named gender paradox.

In addition to this, there is no general agreement in the taxonomy of suicidal behaviour (Silverman & De Leo, 2016) which hampers the comparisons between studies. A classification that reflects well the reality of suicidal behaviour in adolescence is that of Ari and colleagues (Ari et al., 2005), which came up from their research on personality traits and suicidal behaviour. According to these authors, suicidal behaviour encompasses suicidal ideation, suicidal threats, preparatory acts, suicide attempts and death by suicide, requiring some degree of intention to die as a critical factor in all these behaviours. Despite the gradient of severity suggested in this taxonomy, as stressed by these same authors, all suicidal behaviours must be taken seriously. In this line, Nock et al. (2013) study shows that the transition time from the onset of suicidal ideation to suicidal planning, and from planning to the first suicide attempt is around one year for both genders. Thus, it is vital to avoid these first attempts because, as some research has already pointed out, they are the main predictor for new suicide attempts (Mirkovic et al., 2020) and death by suicide (WHO, 2021).

It is important to highlight that adolescence is a period of particular vulnerability due to developmental changes. A decrease in life satisfaction and an increase in stress and depression are usually reported, and these symptoms have been linked to suicidal behaviour in some research (Anderson & Smith, 2003; Goldbeck et al., 2007; Morales-Vives & Dueñas, 2018). Moreover, the propensity to being impulsive and underestimating risks, and the importance of relational aspects like the need for belongingness, can also be associated with suicidal behaviour in this population (Bursztein & Apter, 2009; King & Merchant, 2008). Thus, it is estimated that up to 8% of adolescents have

made a suicide attempt throughout this specific life period (Evans et al., 2005). In a Spanish sample of adolescents aged 14-19 years old, it was found out that approximately 4% had attempted suicide at some point in their lives. Even more, 6.9% of these young people reported a level of suicidal ideation that could be considered high (Fonseca-Pedrero et al., 2017). These data are very similar to that reported by Nock et al. (2013) in international samples. In the European multicenter study *Saving and Empowering Young Lives in Europe* (SEYLE), rates of suicidal ideation were higher, with 21.2% in males and 35.4% in females. In another Spanish sample, the rates of suicidal ideation for adolescents between 14-16 years old were 7% in men and 8% in women, with attempted suicide rates of 2% and 4.2% respectively (Bousono et al., 2017). Moreover, the pediatric psychiatric population is even more vulnerable as it is estimated that between 20-47% have made a suicide attempt before the age of 18 (Bursztein, & Apter, 2009).

Much of the research conducted in the past decade to study personality in individuals committing a suicide attempt have focused exclusively on a categorical/diagnostic approach, offering a very low specificity and not being able to predict suicidal behaviour (Arie et al., 2005; Brent et al., 1994; Links et al., 2003; Marco-Sánchez et al., 2020; Pompili et al., 2004). Nowadays, a dimensional approach to personality is followed (Lee et al., 2017; Morales-Vives, & Dueñas, 2018), which provides quantitative information regarding the level of severity and the type of psychopathology, therefore aiding the management of suicidal behaviours (Velting et al., 2000). Thus, the study of personality among adolescents with suicidal behaviour is relevant to guarantee the validity of diagnoses, determine the clinical severity of patients and facilitate the decision-making process (Velting et al., 2000). Despite this, there is a scarcity of studies in adolescents using the same assessment instrument. In this sense, the character dimension of *Cooperativeness* measured with the *Temperament and Character Inventory* (TCI-56) has been identified as one potential protective factor to prevent suicide re-attempt at 12-month follow up in a sample of adolescents (Mirkovic et al., 2020). Moreover, Morales-Vives and Dueñas (2018) found a negative correlation between suicidal ideation and emotional stability measured with the *Overall Personality Assessment Scale* (OPERAS), with men showing the highest scores in this dimension. Other studies based on the Millon's personality theory do not focus on gender (Ferrer & Kirchner, 2014; Simon & Sanchis, 2010; Velting et al., 2000), or have been carried out in samples with suicidal ideation but not with suicide attempts (Ferrer & Kirchner, 2015).

In summary, despite previous evidence, it is still unclear whether gender plays a significant role in suicide behaviour during adolescence and if preventive gender-tailored programs could be necessary (Morales-Vives & Dueñas, 2018). Consequently, this study investigates if personality, sociodemographic and psychopathological characteristics play some role in the gender differences related to suicidal behaviour during adolescence.

Method

Participants and setting

All adolescents aged 13 to 17 years old admitted to a tertiary paediatric hospital for suicidal behaviour between December 2015 and January 2018 were recruited and invited to participate in the study. Patients with cognitive or neuropsychological impairments precluding the assessments were not included in the study. All participants and their parents/legal tutors gave their written informed consent before participating in the research.

This study was entirely carried out in the Pediatric Emergency Service of the Sant Joan de Déu Hospital (Barcelona), with an area of influence of 1,300,000 inhabitants and with 100,000 annual visits to the general emergency service.

Outcome variables and assessment instruments

Data for the study was gathered using an *ad hoc* protocol collecting: *Sociodemographic variables*. Gender (males and females) and age.

Suicidal behaviour characteristics. This information was collected based on the report and assessment carried out by a mental health professional (a clinical psychologist and/or a psychiatrist, part of the research team) at the patient's admission to the emergency services. This data included: a) type of suicidal behaviour following Arie, Harvi-Catalan & Apter (Arie et al., 2005) taxonomy: suicidal ideation, suicidal threats, preparatory acts and suicide attempt; b) method used in the suicide attempt including pharmacological drug abuse, poisoning, jumping from a height, exsanguination and hanging; c) trigger for the suicidal behaviour: family and/or peer(s) conflict, break in love, emotional dysregulation, academic problems, mental health disorder, organic disease, other reasons, not specific trigger referred; d) previous history of suicidal behaviour; and e) History of non-suicidal self-harming behaviour (self-injuries) was also surveyed.

Personality. The *Millon Adolescent Clinical Inventory* (MACI) self-report inventory (Millon, 1993) was employed to assess personality characteristics and clinical syndromes in the adolescent clinical population. It has 160 dichotomous response items (true vs. false) divided into 31 scales grouped as follow: 1) a protocol validity scale (*Reliability*) and three modifying scales that allow measuring specific trends of patient response (*Disclosure*, *Desirability*, *Debasement*); 2) twelve scales of personality prototypes that reflect the way in which the features and personality characteristics of the adolescent combine to form prototypes (*Introversive*, *Inhibited*, *Doleful*, *Submissive*, *Dramatizing*, *Egotistic*, *Unruly*, *Forceful*, *Conforming*, *Oppositional*, *Self-Demeaning*, and *Borderline Tendency*); 3) eight scales of expressed concerns that focus on feelings and attitudes of the adolescent that can be a source of conflict or concern (*Identity Diffusion*, *Self-Devaluation*, *Body Disapproval*, *Sexual Discomfort*, *Peer Insecurity*, *Social Insensitivity*, *Family Discord*, and *Childhood Abuse*) and 4) seven other scales of clinical syndromes, which harbor disorders of high prevalence that manifest themselves in a relatively specific way among adolescents (*Eating Dysfunctions*, *Substance Abuse Proneness*, *Delinquent Predisposition*, *Impulsive Propensity*, *Anxious Feelings*, *Depressive Affect*, and *Suicidal Tendency*). MACI was validated with a Spanish population (Millon & Aguirre, 2004), and the reliability coefficients ranged from 0.65 (*Sexual Discomfort*) to 0.91 (*Self-Devaluation*).

Procedure

When the patient was admitted to a single pediatric room, once the clinical intervention was over and she/he was calm, the study's objectives were explained to the patient and his/her family. Informed consent was given after possible doubts were commented on and resolved if they agreed to participate. Once the informed consent was signed, the assessment protocol was delivered. First, a clinician collected sociodemographics, clinical data related to suicidal behaviour and previous non-suicidal behaviours from medical records. Next, data related to personality traits and clinical severity were obtained through the administration of the MACI (self-administered, after clinicians' explanations). The whole assessment session lasted less than 1 hour.

Ethical aspects

Approval for this study was obtained from the hospital's Ethics Committee, considering the internal ethical regulations and those from the World Medical Association and the Declaration of Helsinki of 1975, with its successive amendments. All participants and their legal representatives granted their consent in writing after receiving the information regarding the study and the measures to guarantee confidentiality and protection of their data. All the data was treated following the Organic Law 3/2018 of Protection of personal data. The confidentiality of the data was ensured using a coding system. The data collected has been exclusively used for the present study, and participation was not economically rewarded.

Statistical analyses

Statistical analyses were carried out using the SPSS_{v26} for Windows. Descriptive statistics (mean, standard deviation, frequency, percentage) were used to analyse the characteristics of the sample, variables associated with suicidal behaviour, history of non-suicidal behaviour and the MACI outcomes for both genders. To analyse gender differences, the Chi-square test for nominal variables and Mann Whitney's *U* test for independent samples (quantitative variables) were used. In addition, Pearson correlation *r* was employed to analyse the relationship between age and the MACI scores. Statistical significance was set at a *p*-value 0.05 threshold.

Results

Sociodemographics and clinical characteristics of the sample

A total of 92 patients participated in the study (66.3% females, *n* = 61). The mean age was 14.99 (*SD* = 1.35, range 13-17), with no statistically significant differences between genders.

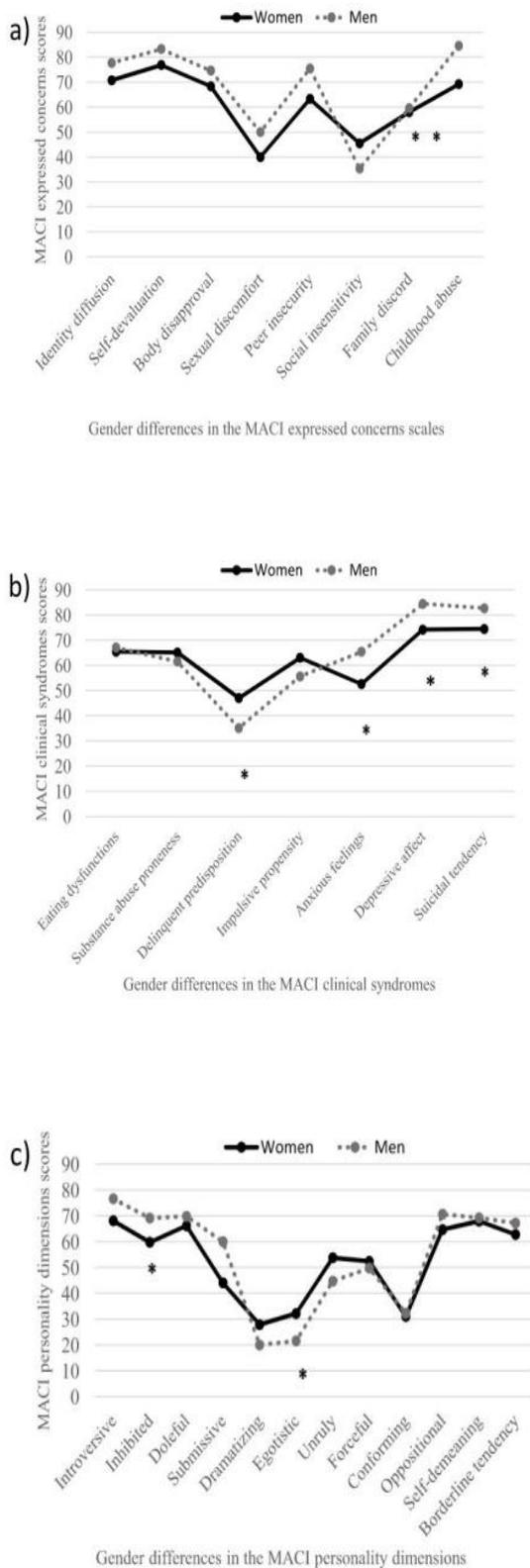
Regarding suicidal behaviour characteristics, there were no statistically significant differences between gender in any of the following variables: type of suicidal behaviour, the method used to attempt suicide, the identified trigger and history of non-suicidal self-harming behaviour.

Seventy-eight per cent of women (*n* = 48, mean age = 15 years old) was admitted by a suicide attempt compared to 58% of men (*n* = 18, mean age = 14.44 years old). The most widely used suicide attempt method for both genders was pharmacological drug overdose (93.7% in women, *n* = 45 vs 77.7% in men, *n* = 14). Likewise, almost half of the men (48%, *n* = 15) and half of the women (47%, *n* = 29) reported a relational trigger as the inducer of their suicidal behaviour. Finally, a history of non-suicidal self-harming behaviour was present in 49% of women (*n* = 30) and 38% of men (*n* = 12).

MACI personality scales

Mean scores for personality dimensions assessed with the MACI were used to obtain gender-related profiles. For women, the highest scores (*M* ≥ 60) were observed in the *Introversive*, *Self-demeaning* and *Doleful* scales, similar to men, where the highest scores were observed in the *Introversive*, *Oppositional* and *Doleful* scales. Conversely, the lowest scores (*M* ≤ 40) for both men and women were observed in the *Conforming*, *Egotistic* and *Dramatizing* scales (See Figure 1).

Figure 1.



- a. Expressed concerns from MACI according to gender
 b. Clinical syndromes from MACI according to gender
 c. Personality dimensions from MACI according to gender

Statistically significant differences between genders were found in the *Inhibited* scale (Mann-Whitney $U = 672.50$, $p = 0.02$, Cohen's $d = 0.45$), with men showing higher scores than women, and in the *Egotistic* scale (Mann-Whitney $U = 685.50$, $p = 0.03$, Cohen's $d = 0.40$), with the latter revealing higher scores (See Table 1).

MACI expressed concerns and clinical syndromes

Regarding *Expressed concerns* (see Table 2), men had significantly higher scores than women in *Childhood Abuse* (Mann-Whitney $U = 536.50$, $p < 0.01$, Cohen's $d = 0.70$). In regards to the *Clinical syndromes'* scales (see Table 3), men had significantly higher scores than women in *Anxious feelings* (Mann-Whitney $U = 652.50$, $p = 0.02$, Cohen's $d = 0.51$), *Depressive affect* (Mann-Whitney $U = 691$, $p < 0.04$, Cohen's $d = 0.41$) and *Suicidal tendency* (Mann-Whitney $U = 687.50$, $p = 0.03$, Cohen's $d = 0.37$), whereas women had higher scores than men in *Delinquent predisposition* (Mann-Whitney $U = 693.50$, $p = 0.04$, Cohen's $d = 0.45$).

Discussion

The main objective of this study was to investigate if there are gender differences among adolescents with suicidal behaviour, with the final aim of trying to develop and implement targeted differential interventions.

The mean age of our sample was 15 years, and there were no statistically significant differences in suicidal behaviour variables regarding gender. Nonetheless, several studies show that suicidal ideation starts earlier in girls, but preparatory acts or suicidal attempts show no gender differences in the age of onset (Boeninger et al., 2010; Freeman et al., 2017; Pitman et al., 2012). These findings could indicate that the transition from suicidal ideation to suicidal action is faster in men or that women communicate better or earlier than men. Moreover, although both males and females experience an increase in suicide attempts at the age of 15-16 years, studies show that females present a decrease in late adolescence and young adulthood, while males reveal a slight linear increase or no differences (Boeninger et al., 2010; Lewinsohn et al., 2001; Rueter et al., 2008).

Bearing in mind that the study was carried out with an inpatient sample, the most prevalent type of suicidal behaviour in both genders was a suicide attempt by drug overdose, without significant differences between genders ($n = 9/10$ in girls and $n = 7/10$ in boys). These results are in line with those found by other authors such as Cibis et al. (2012) or Freeman et al. (2017), who questioned whether the chosen method could explain all gender differences in terms of rates of mortality, as more deaths occur in men even when using the same method. Also, as already found in previous research (Dieserud et al., 2010), half of the adolescents in our sample identified relational conflicts as the main trigger for suicidal behaviour regardless of gender.

Moreover, our results regarding the personal history of self-harming behaviour are consistent with other studies, as we do not find differences between gender (Bousoño et al., 2021; Kirchner et al., 2011; Nock et al., 2007). Bousoño et al. analyse and compare the prevalence of deliberate self-harm (DSH) in the Spanish sub-samples of the SEYLE and the WE-STAY project, finding a prevalence of 1.56% and 0.92%, respectively (Bousoño et al., 2021). In our sample, the prevalence of DSH was 50% in women and 40% in men, which shows the strong relationship between self-injury and suicidal behavior in both genders, even though they are conceptually different phenomena. New theoretical approaches in the study of suicidal behaviour, such as the

Table 1. Gender differences in the MACI personality dimensions (N = 92)

Personality Dimension	Gender	M (SD)	Mann-Whitney U	p value	Cohen's d	% over BR>75
Introversive	Women (n = 61)	68.08 (22.65)	722.50	0.07	0.37	39.3%
	Men (n = 31)	76.61 (23.05)				54.8%
Inhibited	Women (n = 61)	59.75 (21.12)	672.50	0.02	0.45	26.2%
	Men (n = 31)	69.10 (19.35)				51.6%
Doleful	Women (n = 61)	66.15 (17.53)	797.00	0.22	0.21	34.4%
	Men (n = 31)	69.81 (17.07)				38.7%
Submissive	Women (n = 61)	44.00 (28.41)	715.00	0.06	0.56	14.8%
	Men (n = 31)	59.94 (28.02)				29%
Dramatizing	Women (n = 61)	27.87 (26.74)	723.00	0.06	0.30	8.2%
	Men (n = 31)	20.00 (26.11)				3.2%
Egotistic	Women (n = 61)	32.16 (27.14)	685.50	0.03	0.40	11.5%
	Men (n = 31)	21.52 (24.95)				3.2%
Unruly	Women (n = 61)	53.72 (19.58)	757.50	0.12	0.37	13.1%
	Men (n = 31)	44.71 (27.93)				16.1%
Forceful	Women (n = 61)	52.38 (18.14)	852.00	0.44	0.12	11.5%
	Men (n = 31)	49.71 (24.79)				19.4%
Conforming	Women (n = 61)	30.97 (24.99)	913.00	0.78	0.04	6.6%
	Men (n = 31)	32.23 (31.05)				9.7%
Oppositional	Women (n = 61)	64.67 (17.19)	754.00	0.11	0.32	27.9%
	Men (n = 31)	70.65 (20.30)				45.2%
Self-demeaning	Women (n = 61)	67.92 (17.89)	864.50	0.50	0.07	42.6%
	Men (n = 31)	69.19 (18.92)				45.2%
Borderline Tendency	Women (n = 61)	62.72 (16.93)	739.00	0.09	0.25	26.2%
	Men (n = 31)	67.16 (17.79)				38.7%

BR: Base Rate

Table 2. Gender differences in the MACI expressed concerns dimensions (N = 92)

Expressed Concerns	Gender	M (SD)	Mann-Whitney U	p value	Cohen's d	% over BR>75
Identity diffusion	Women (n = 61)	70.69 (21.94)	766.50	0.14	0.30	42.6%
	Men (n = 31)	77.68 (24.16)				51.6%
Self-devaluation	Women (n = 61)	76.82 (24.01)	768.00	0.14	0.25	49.2%
	Men (n = 31)	83.23 (27.23)				61.3%
Body disapproval	Women (n = 61)	68.31 (24.29)	805.50	0.25	0.24	36.1%
	Men (n = 31)	74.61 (28.26)				58.1%
Sexual discomfort	Women (n = 61)	39.92 (26.97)	787.50	0.19	0.36	13.1%
	Men (n = 31)	49.94 (28.54)				19.4%
Peer insecurity	Women (n = 61)	63.25 (28.90)	735.00	0.80	0.44	37.7%
	Men (n = 31)	75.45 (26.52)				51.6%
Social insensitivity	Women (n = 61)	45.46 (26.84)	751.00	0.11	0.37	19.7%
	Men (n = 31)	35.32 (27.64)				12.9%
Family discord	Women (n = 61)	57.95 (22.23)	915.00	0.80	0.07	23.0%
	Men (n = 31)	59.55 (23.57)				19.4%
Childhood abuse	Women (n = 61)	69.15 (20.30)	536.50	0.001	0.70	37.7%
	Men (n = 31)	84.48 (24.63)				71.0%

BR: Base Rate

Table 3. Gender differences in the MACI clinical syndromes dimensions (N = 92).

Clinical Syndromes	Gender	M (SD)	Mann-Whitney U	p value	Cohen's d	% over BR>75
Eating Dysfunctions	Women (n = 61)	65.43 (21.31)	919.00	0.83	0.07	27.9%
	Men (n = 31)	67.10 (23.82)				32.3%
Substance abuse proneness	Women (n = 61)	65.10 (20.88)	847.00	0.42	0.14	29.5%
	Men (n = 31)	61.52 (27.80)				32.3%
Delinquent Predisposition	Women (n = 61)	47.00 (25.67)	693.50	0.04	0.45	13.1%
	Men (n = 31)	35.13 (26.60)				6.5%
Impulsive Propensity	Women (n = 61)	63.03 (21.76)	774.50	0.16	0.31	24.6%
	Men (n = 31)	55.65 (25.93)				22.6%
Anxious Feelings	Women (n = 61)	52.57 (25.16)	652.50	0.02	0.51	16.4%
	Men (n = 31)	65.42 (25.04)				35.5%
Depressive Affect	Women (n = 61)	74.21 (23.39)	691.00	0.04	0.41	44.3%
	Men (n = 31)	84.45 (25.93)				61.3%
Suicidal tendency	Women (n = 61)	74.49 (20.59)	687.50	0.03	0.37	41.0%
	Men (n = 31)	82.68 (24.99)				61.3%

BR: Base Rate

“Interpersonal theory of suicide” and “the Three-step theory”, might explain the relationship between suicidal behaviour and DSH. These theories defend the differences between suicidal ideation and suicidal action through a model based on a process of increased pain tolerance and the loss of fear of bodily harm. This relationship increases the likelihood of committing severe self-harming behaviours and, therefore, it could enhance individuals' suicide capacity, suggesting that the process of acquiring the capability for suicide would work equally in both genders (Joiner et al., 2009; Klonsky & May, 2015; Van Orden et al., 2010).

When analysing personality in our sample, both genders had a profile characterised by high scores on the MACI dimensions of *Introversive*, *Inhibited*, *Self-demeaning*, *Doleful*, *Oppositional* and *Borderline tendency*, and low scores in the *Conforming*, *Egotistic* and *Dramatizing dimensions*. Previous studies have also found low scores in *Conforming* and *Submissive* (Velting et al., 2000), and in *Conforming*, *Submissive*, *Dramatizing* and *Egotistic* dimensions (Simon & Sanchis, 2010). In the present study, differences in the personality profile according to gender were only found in the *Inhibited* and *Egotistic* dimensions. In this sense, the presence of the *Inhibited* trait in the clinical range was evident in more than half of men. This tendency towards inhibition indicates avoidance of intimacy with the other and a lesser expression of one's feelings and experiences. At the same time, this is related to having fewer relationships with others and promoting a lack of connection. Indeed, several variables of productive coping or temperament traits like cooperativeness, are factors that have shown to have a protective effect in suicide (Mirkovic et al., 2020). Interestingly, inhibited men could experience more difficulties self-developing these protective traits as some research has pointed out (Consoli et al., 2015; Mirkovic et al., 2020; Orozco et al., 2018). Furthermore, according to the “Interpersonal Theory of suicide” and the “Three-Step theory”, this is a clear risk factor for suicidal behaviour, also congruent with Rhodes et al. (2011) approach, relating the greater presence of internalised symptomatology (higher scores in *Anxious feelings* and *Depressive affect*) with greater *Suicidal tendency*. Finally, the present research revealed higher *Egotistic* scores in women despite being a very prevalent trait in both genders. All these results are partially coherent with Rozanov & Mid'ko (2011), who showed that a particular combination of personality traits could help predict the probability of committing a suicide attempt in certain life

circumstances. Still, these combinations may differ according to gender (Rozanov & Mid'ko, 2011).

Regarding the MACI expressed concerns dimensions, many adolescents from both genders in our sample showed high scores in *Identity diffusion*, *Self-devaluation*, *Body disapproval*, and *Peer insecurity* dimensions, indicating that adolescents with suicidal behaviour also show a broad spectrum of expressed concerns. These findings reinforce one of the “Three-Step theory” tenets highlighting pain and suffering as the essential components of suicidal behaviour (Klonsky & May, 2015). When analysed by gender, men scored significantly higher in *Childhood abuse* (n = 7/10 men vs n = 4/10 women). Moreover, adolescents who had experienced *Bullying* or, psychological, verbal, physical or sexual abuse, scored higher on this scale in our sample. Consistently with our results, Rhodes et al. (2011) published a systematic review stressing out the strong association between suicide attempts and sexual abuse in males. According to these authors, this could be explained by men being less likely to share their traumatic experiences due to feelings of shame and fear of stigmatisation because of the traditional male role model (Lisak, 1995). This could also be related to a worse integration of the trauma and, consequently, to have higher psychopathological repercussions, such as feelings of isolation, guilt, sadness and suicidal ideation.

Concerning *bullying*, there is no consensus in the literature regarding possible gender differences. Klomek et al. (2011) found an association between harassment and suicidal ideation in men who suffered bullying regularly and for long periods. This association was also found in women even when the frequency was low (Klomek et al., 2011). Thus, this data accumulates evidence of men's tendency to not ask for help and keep their pain silent.

When assessing the MACI Clinical Syndromes in our sample, men had higher scores in the scales that measure internalising symptoms such as *Anxious feelings* and *Depressive affect*, while women had higher scores in externalising symptoms, such as the *Delinquent predisposition* scale. At first glance, this specific finding in females may seem contradictory because of the results obtained in the personality dimensions, which show higher scores in the *Introversive*, *Self-demeaning* and *Doleful scales*. However, they are coherent with those of other authors who point out that female delinquents have introverted, self-demeaning and doleful personality profiles, together with greater emotional insta-

bility, low self-esteem and a high incidence of suicidal behaviour, compared to male offenders (Loper et al., 2001; Vinet & Alarcón, 2009).

Regarding *Anxious feelings* in men, our results are consistent with those who state that adolescents with high levels of anxiety are more apprehensive, reactive and sceptical, and have higher levels of suicidal symptomatology (Stewart et al., 2008). Concerning *Depressive affect*, Rozanov and Mid'ko (2011) found similar results as they identified depression as the mediating variable that best explained the relationship between personality dimensions and suicidal behaviour in men. Furthermore, they concluded that the personality profile of men was more related to the tendency of having feelings of guilt, sadness, hopelessness and loneliness, while in women it was more associated with variables related to activity and self-regulation (Rozanov & Mid'ko, 2011).

In the same line, previous research has evidenced a more significant association between the risk of suicide and "minor mental disorders" in men (Gunnell et al., 2002), and also a lower tendency to seek and receive medical treatment and social support when suffering from depressive symptoms (Parslow & Jorm 2000).

For an integrated understanding of all these results, we need to consider a sociological gender-based perspective. In Western societies, suicide in women is considered more wrong, foolish, and less permissible than suicide in men (Canetto, 2008; Deluty, 1988), whereas suicidal ideation or suicide attempts seem more accepted in females than in males. In a study by Rich et al. (1992), girls were less worried about disapproval of their suicidal ideation than boys. It could also be an issue of expectation, as girls have higher rates of suicidal behaviour than boys. Regarding the gender differences in the clinical presentations, our results align with previous studies that identify depression in men as the mediating variable that best explains the relationship between personality dimensions and suicidal behaviour. At the same time, suicidal behaviour in women it is more associated with variables related to activity and self-regulation and not so much to depression (Rozanov & Mid'ko, 2011).

From the results of these investigations, it appears that men could benefit more from interventions to treat depressive symptomatology. In contrast, women could benefit more from interventions based on the acquisition of emotional management resources and social skills, as for example the Dialectical Behavioral Therapy for adolescents (DBT-A); (Glenn et al., 2019; Kothgassner et al., 2020; Linehan et al., 2015; Mehlum et al., 2016) or a problem-solving approach (Rudd et al., 1996). Indeed, the treatments that have been most effective to treat suicidal behaviour are precisely those that contemplate multimodal interventions, which address both aspects. Preventive interventions that aim at identifying one's own emotions, encourage attitudes to request help, and identify young people at risk have already been implemented at schools in some countries. A recent systematic review identifies the three main programs displaying better results in this field: *The Counselors Care, Assess, Respond, Empower* (C-CARE), the *Yellow Ribbon Suicide Prevention Program* (YRSPP) and the *Signs of Suicide* (SOS) program (Sanz et al., 2021). Other examples of such programs are the *Empowering a Multimodal Pathway Toward Healthy Youth Empathy program* from Canada (Silverstone et al., 2017) or the *Youth Aware of Mental Health* (YAM) program, included in the SEYLE cluster-randomized controlled trial study (Wasserman et al., 2015). However, none of these programs incorporates gender-specific aspects, which according to our results and some from previous research (Mirkovic et al., 2020) should be considered. Still, it will be necessary to engage strategies to encourage young men to ask for help at different health settings which offer such support. From a gender-based perspective, it seems clear that the male attitude of "wait and see" instead of seeking medical or social help is common in regards to

mental health concerns or with situations that could be perceived as abusive (Addis & Mahalik, 2003; Mansfield, et al. 2003; Möller-Leimkühler, 2002; Parslow & Jorm, 2000). This gender-related delay effect is socially determined, as men are more likely to avoid seeking help when confronted with life events that diminish their sense of control (Brehm, 1996; Powell et al., 2016). Furthermore, masculinity norms or shared cultural expectations about male behaviour (Spence et al., 1987) profoundly influence men's identity and help-seeking attitudes (Addis, & Mahalik, 2003; Fish et al., 2015; Galdas et al., 2005).

In conclusion, our results show that inpatient male adolescents with suicidal behaviour, have a more severe clinical presentation, are more likely to have experienced abuse and have a more inhibited personality profile than women. Also, men with severe symptomatology tend to seek less professional support which would prevent them from presenting suicidal behaviour. In regards to preventing measures for suicide, interventions aimed at favouring a social change in the delay of seeking help are suitable, especially in men. It is also imperative to work with the more inhibited boys at an individual level and to break the cultural taboos and shame that prevent them from reporting symptoms and asking for help. It is worth noting that educational interventions aimed at sensitising society in allowing men to share their emotional pain could also help decrease the higher rates of dying by suicide in men than in women.

Limitations and future research

Despite the novel contributions of these results in the understanding of suicide behaviour in adolescents, several limitations of this specific research must be taken into account. The first one is that a convenience sample ensuring representation of both genders was recruited from a single center. Despite being recruited from a tertiary hospital which is a reference center for child and adolescent psychiatry in a wide geographical area, multicentric studies and larger samples are always recommended to increase the generalisation of the results. The second limitation is that the study design does not establish causal relationships or identify mediating variables in the association between personality dimensions and suicidal behaviour. More rigorous methods that allow greater experimental control are preferable to further investigate these issues.

Despite these limitations, it is worth highlighting the strengths of the present research. Firstly, many studies include samples of adolescents with a low risk of suicide, and we know from research that most of these patients will not present more severe behaviours. In this sense, our sample includes high-risk adolescents who present more serious suicidal behaviours, adding to the existing knowledge and providing a better characterization of the problem. Secondly, our research has used a personality assessment tool widely applied in clinical settings and validated with adolescent populations, allowing replicability.

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