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Involuntary Celibate (Incel): validation of the Incel Trait Scale (ITS) in the Italian male population

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SUMMARY

Introduction

The term Incel represents the union of the words "INvoluntary" and "CELibates" (involuntary celibate) and it refers to a male phenomenon of discrimination and hate towards female population. In some cases, Incel characterized also by aggressive behaviors and violence acts, due to social and psychological factors. For this reason, it is necessary an accurate evaluation of Incel phenomenon to prevent it.

Objectives

Therefore, the aims are to validate the Incel Trait Scale (ITS) in the Italian Language, analyze the structure of the scale and adapt it to the Italian population.

Methods

A total of 1316 Italian cisgender (gender identity matched assigned sex at birth) men participated in the study, they fill out the survey on the online platform QUALTRICS. We administered them a set of questionnaires, with the sociodemographic part and the Italian version of ITS.

Results

Explorative and Confirmatory Factor Analysis revealed good fit indexes (CFA: χ^2/df = 6.375, SRMR = .065, CFI = .885, RMSEA = .070). Also, reliability was good with the Cronbach α coefficient of .887 for Failure factor, .810 for Outcasted factor, and .712 for Enraged factor.

Conclusions

Incel Trait Scale (ITS) represents the first psychometric tool to evaluate the Incel phenomenon among Italian male population and it is fundamental to prevent and individuate risk factors for the gender violence in terms of discrimination and aggression. Moreover, ITS also permits to better studied the psychopathological factors associated to Involuntary Celibate.

Key words: Involuntary Celibate, Incel, psychometry, assessment, psychopathology

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Introduction

The term Incel represents the union of the words "INvoluntary" and "CELibates" (involuntary celibate), these are mainly heterosexual men who consider themselves unable to establish sexual and romantic relationships with a woman [1].

This term was coined by Alana – a bisexual Canadian student – in 1997. Alana created an online forum called *Alana's Involuntary Celibacy Project* with the aim of build an inclusive community and form a virtual support group to help those who were struggling with intimate relationships [2]. Over time these forums have changed, they became a place where the participants had the opportunity to manifest their aggressiveness against wom-

an. Following the same patterns, the concept of being Incel has also changed, so in 2003 Alana decided to close her blog [2]. Today the term is used to refer mainly to misogynistic men who are seeking heterosexual sex. The Incel subculture was born within online communities, particularly in the so-called *Manosphere*. The Manosphere is a term used to refer to blogs, websites and forums in which participants believe in the centralization of the male figure and show a total and declared aversion to feminism [3].

The ideology behind the Incel culture is strongly radicalized against feminism. According to Incel' view feminism undermines and weakens all men's social role [3,4]. However, Incel ideologies present a clear purely misogynist vision [5], capable of fueling the false belief that women are the only ones to blame for Incel's loneliness and sexual frustration. In this subculture, it is believed that, from a biological point of view, man and woman are different and consequently have other sexual selection criteria [1]. According to this idea, women reject them because they are unattractive. In this sense, Incels do not consider themselves unattractive only from a physical point of view, also status and wealth are, according to them, relevant aspects in the possibility of having a partner or not [6].

Most of the study on the Incel population focus on the misogynistic and political side of the phenomenon [7-9], while fewer studies focused on their personality and mental health [10]. The phenomenon of Incels has become worrisome as stated by a EU official document investigating the Incel phenomenon, most of those who identified as Incel, are also extremists, and take part in Nazism and racists movements such as "altright" and "whitecel" [11]. Although this phenomenon has existed for several years, it has only recently aroused great interest in sociologists and psychologists, due to the worrying number of episodes of violence claimed by white Incels. The explicit attitudes of hostility towards women seem to generate a possible scenario of aggravated violence against women, as previously demonstrated by the attack of a self-proclaimed Incel which took place in 2018 in Toronto [12]. In fact, from 2014 until now, attacks by Incel have occurred mainly in America and Canada [3,13]. The first attack by a man claiming to be Incel, Elliot Roger, happened in California in 2014. He killed 6 people, injuring 14 others, before committing suicide [13]. Then others followed, not only in the United States, but also in Canada and around Europe [7,14].

In the light of these considerations, it is crucial to understand and evaluate Incel's characteristics, in order to prevent violent conduct but also to create adequate programs of interventions [15].

In this regard, Scaptura and Boyle (2019) developed a self-report questionnaire that can measure possible incel traits of personality. Following the Identity theory model, a two-step process in which researchers define words and meanings associated with a particular identity, and then this set of bipolar measures is delivered to respondents and factor analysis is used to assess validity. The measure is then used to predict behaviors, emotions, or distress. Authors determined words and meanings associated with Incel personality, by coding traits and characteristics that journalists associated with these individuals and this community about their relationships with women, gathered via Google News [4]. The validation process was made on a sample of 541 American men, from the general population, aged from 18 to 30 years old [4]. The participant had to specify which word in the pair best represents himself, and rate it from 0 to 9. The "Incel trait scale" composed of twenty items has a satisfactory internal consistency (α = .92). Starting from a pool of 29 items, factor analysis revealed two basic factors, the first factor, called *defeat* contains 13 items (α = .91) and the second, called *hateful*, has 7 items (α = .81) [4]. At the present, this represents the only measure of Incel personality characteristics published.

Aims

There are some evidences of the spread of the Incel subculture in Italy, especially online, but to our knowledge an Italian measure of Incel characteristics is not available. Based on the above considerations, the aims of the present study are to validate the ITS in the Italian Language, analyze the structure of the scale and adapt it to the Italian population.

Methods

Participants and procedures

A total of 1316 Italian cisgender (gender identity matched assigned sex at birth) men participated in the study, they fill out the survey on the online platform QUALTRICS. Participants were recruited through a snowball sampling in the main social media, in the general population. Inclusion criteria were being at least 18 years old, being cisgender male, understand Italian language. The data collection took place between September 2021 and January 2022. The research protocol was approved by the Institutional Review Board of Psychology of the Department of Psychological, Health and Territorial Sciences of the University "G. d'Annunzio" of Chieti-Pescara (nr. 21004). Participants were informed about the research's aims and privacy settings and did not receive any financial compensation for their participation in the study. Each participant, therefore, gave the own consent for the study responding to a specific item on the online platform. The entire protocol was

TABLE I. *Descriptive characteristics of the sample.*

Variables	Frequency (%)
Nationality	
Italian	881(98.8)
Foreign	11(1.2)
Relational status	
Married	107(12.0)
Single	447(50.0)
In a relationship	338(38.0)
Scolarity	
Middle school	25(2.8)
High school diploma	368(42.0)
Bachelor degree	237(26.5)
Master degree	185(20.2)
Post-lauream	77(8.5)

anonymous. After removing incomplete protocols and participants who did not meet the inclusion criteria, the final sample for the present study was composed by 892 participants, aged between 18 and 50 years old (M = 29.40, Sd = 8.03), demographic and personal characteristics are reported in Table I.

Assessment

Participants were administrated with a set of questionnaires, divided into two parts. The first part consisted in a sociodemographic questionnaire including information about age, education and relationship status. The second part was composed by the Italian translation of the ITS,

Incel Trait Scale (ITS)

The "Incel trait scale" consists of 20 pairs of opposite adjectives, such as "strong" and "weak", "fulfilled-frustrated", "accepted – rejected", "successful-defeated" and violent-nonviolent". respondents have to slide the scale to "indicate which word describes you better". Each pair was scaled from 0 to 9. The pair was randomly presented to participants, and then recoded as follow: 0 corresponds to the "good" and "positive" adjective in the pair, while 9 correspond to the negative antonym and related to the Incel personality.

ITS translation and adaptation

We put the original version of the ITS through a forward and backward translation technique, having developed a consensus of the authors who developed the scale. The translation and adaptation were carried out from English to Italian by two expert bilingual translators. A group of clinical psychologists evaluated each word, according to an accurate interpretation of the Italian population. The main challenge was to discriminate the meaning of some terms that are synonyms in the Italian language, preserving the correct emotional nuance in our language.

Analysis plan

The first step consisted in the language adaptation, using the forward and backward translation technique. In the second step we conducted a confirmatory analysis following Scapatura and Boyle (2019) subscale division. Unfortunately, the structure of the original version didn't fit with our data. considering these results, we conducted an exploratory factor analysis and subsequentially a confirmatory factor analysis.

Statistical analysis

The Statistical Package for Social Science (SPSS) version 26 for Windows and AMOS were used to run the explorative factor analysis and the confirmatory factor analysis (CFA) and the correlation between the variables. Internal consistency was estimated by the Cronbach α coefficient, for both the subscales and total score: $\alpha > .90$ are considered excellent indicators, α comprised between .80 and .90 are very good indicators, α included between .70 and .80 are evaluated as appropriate, coefficient included between .70 and .80 are estimated as sufficient, and $\alpha < .60$ are insufficient indicators. We conducted an exploratory factor analysis to better evaluate the structure of our Italian version of the "Incel Trait Scale". Specifically, the component structure and reliability of the questionnaire was explored using principal component analysis (PCA). A varimax rotation was used. We used the scree plot, the eigenvalues, and the parallel analysis (with 1000 replications) to guide the retention of the components.
CFA was carried out using the Maximum Likelihood as appropriate estimator. Model fit was evaluated by means of the following fit indexes: the χ^2/df statistic; the Root Mean Square Error of Approximation (RMSEA) assessing the fitting of the model to the general population (the RMSEA value indicates a good adaptation the more its rate approaches "0", Browne and Cudek (1993) suggest that values ranging from .05 and .08 are indicative of an satisfactory fit) [16]; the Comparative Fit Index (CFI) show scores between 0 and 1 (a value over .95 is considered excellent, a value between .90 and .95 considerate a very good index, values between .85 and .90 are considered good) and the Standardized Root Mean Square Residual (SRMR) specifies the difference between the residuals of the sample covariance matrix and the theorized model, an acceptable value is considered less than .08 [17].

Results

Explorative and confirmatory factor analysis

The results from these analyses revealed a three factors

structure with satisfactory reliability values, unlikely the original version that identified only two factors (defeated and hateful). We named the first factor as "Failure" since it reflects those "Incel" traits and attitudes associated to failure, insecurity, and frustration. The second factor, "Outcasted", is related to aspects concerning rejection and ostracization. Finally, the third factor, "Enraged", is associated to traits and attitudes such as violence, rage, and resentment. The factor structure of the questionnaire was evaluated using PCA. A varimax rotation was used. The pattern matrix and the items corresponding to the Incel personality is reported in Table II. Nine items showed satisfactory loadings (i.e., > 0.40) on the first factor, five items showed satisfactory loadings on the second factor and further five items showed satisfactory loadings on the third factor. One item (i.e, "disgusted") showed cross-loadings (i.e., a difference < 0.20 between the loadings on two or more components), and therefore was excluded from the final measure.

We testes the PCA model by means of a CFA reported in Figure 1 where the three-factor model, composed by 19 items and scale are correlated with each other. The model fit indices were: χ^2/df = 6.375, SRMR = .065, CFI = .885, RMSEA = .070. According to the field literature [16,17] the goodness of these fit indexes is acceptable. In Table III are reported the mean and standard deviations for each item, and the factor loadings for 19 item and 3 factors, which range from good to adequate (Fig. 1).

TABLE II. *Pattern matrix of the PCA for the "Incel Traits Scale".*

Scale	Item		Factor loading		
			A	B	C
A. Failure	ITEM 1	Insecure	.831		
	ITEM 2	Confused	.784		
	ITEM 6	Not confident	.775		
	ITEM 7	Frustrated	.706		
	ITEM 9	Sad	.650		
	ITEM 10	Paranoid	.627		
	ITEM 13	Defeated	.614		
	ITEM 15	Weak	.602		
	ITEM 20	Fearful	.511		
B. Outcasted	ITEM 5	Shunned		.760	
	ITEM 11	Rejected		.685	
	ITEM 14	Unattractive		.573	
	ITEM 16	Scorned		.554	
	ITEM 17	Excluded		.539	
C. Enraged	ITEM 4	Vengeful			.808
	ITEM 8	Enraged			.679
	ITEM 12	Resentful			.673
	ITEM 18	Violent			.513
	ITEM 19	Hateful			.489

Reliability

The analysis of internal consistency showed an overall Cronbach's α coefficient of .886. In the three subscales, the Cronbach α coefficient was .887 for Failure factor, .810 for Outcasted factor, and .712 for Enraged factor.

Correlation among ITS scales

We found positive correlation between the three ITS factors. Each factor positively correlates with another subsacale as well as the total ITS score: failure correlates with outcasted (r = .666, p > .001) and enraged (r =. 160, p > .001) and the total score (r = .892, p > .001); outcasted factor positively correlates with en-

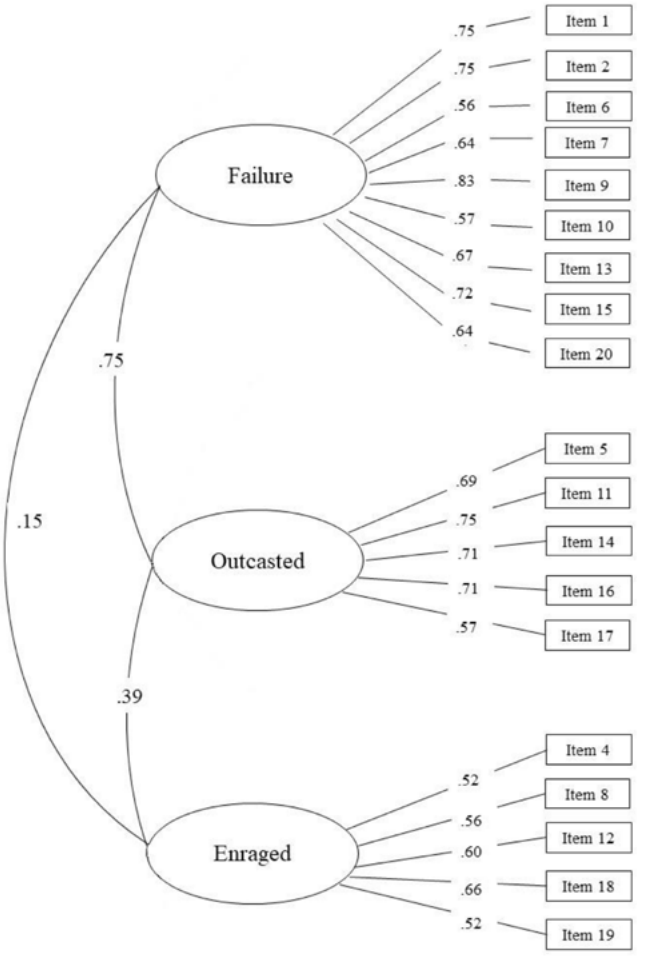

FIGURE 1. *Confirmatory factor analysis representation. Confirmatory factor analysis of the Incel Trait Scale. Model shows standardized parameters estimates.*

TABLE III. *M, SD and factor loadings (CFA) of the single items of the italian version of the "Incel Traits Scale".*

Scale		Item	M	SD	Factor loading
A. Failure	ITEM 1	Insecure	3.97	2.33	.75
	ITEM 2	Confused	3.56	2.17	.75
	ITEM 6	Not confident	4.07	2.40	.56
	ITEM 7	Frustrated	4.09	2.18	.64
	ITEM 9	Sad	3.60	2.20	.83
	ITEM 10	Paranoid	3.74	2.30	.57
	ITEM 13	Defeated	3.90	1.87	.67
	ITEM 15	Weak	3.67	1.94	.72
	ITEM 20	Fearful	4.03	1.91	.64
B. Outcasted	ITEM 5	Shunned	2.83	1.84	.69
	ITEM 11	Rejected	3.12	2.15	.75
	ITEM 14	Unattractive	3.91	2.02	.71
	ITEM 16	Scorned	3.34	1.64	.71
	ITEM 17	Excluded	3.49	2.23	.57
C. Enraged	ITEM 4	Vengeful	3.51	2.27	.52
	ITEM 8	Enraged	3.07	2.18	.56
	ITEM 12	Resentful	3.02	2.24	.60
	ITEM 18	Violent	1.91	2.14	.66
	ITEM 19	Hateful	2.90	1.90	.52

raged and the total score as well (respectively r = .295, p > .001, r = .841, p > .001). Finally enraged correlates with the total score for r = .520, p > .001.

Discussion

The study has presented the first Italian validation of the ITS questionnaire, a measure for the assessment of Incel's personality characteristics developed by Scapatura and Boyle (2019) [4]. Incels phenomenon is growing faster, and due to its political and social implication along with its violent outcomes, both online and in real life, it has rapidly become a social problem, has highlighted by the European Commission [11]. The ITS is a quick and easy questionnaire that can help to assess Incel characteristics in the general population, and its good psychometric qualities make it an applicable tool for studying and screening the phenomenon in our Country. The internal consistency of the three subfactors and the overall score is good and make it a reliable tool for the evaluation of Incel characteristics. The CFA showed that the first-order model with failure, outcasted and enraged factors demonstrated an adequate fit, and the factor loading were acceptable, as well as the correlation between factors. Nonetheless, the third factor "enraged" was the psychometrically weakest one (Tab. III) due to the "violent- nonviolent" item, and that was similar to the original version (where r = .10, p < .05; [4]). Probably, these lower values maybe due to the fact that our large-scale sample is composed by a general population and not only by self-declared Incel. Despite that, the goodness of the model values suggests that ITS can be a reliable measure to assess Incel characteristics in the population of male, even in those that do not declare themselves as Incel but can be at risk of join such extremist group. Moreover, the three factors failure, outcasted and enraged describe the aspects related to the sense of failure, exclusion, anger and resentment that characterize the perception and thus the behavior of Incel people [1], overlapping the results obtained by the original validation, even if those aspect are grouped in two factors. In particular, failure factor reflects the sense of frustration and defeat that Incel individual feel about sexual and romantic relationship, as well as in other aspects of their life, that can be a consequence of other mental issues [18]. The factor outcasted, instead, describe the feeling of exclusion and rejection that Incels perceive from the society, and the idea that the society, in particular feminists' movement and left politics, is to blame for their condition. This external locus of control is appeared to be a central as-

pect of Incel personality, and it is well detected by the ITS. Enraged factor, finally, reflects the need for revenge and the resentfulness that permeates the Incel community, that can be violently acted upon women and other targeted minorities [15,19]. According to our results, the Incel Trait Scale is a reliable measure to assess Incels personality traits, and can be useful, in conjunction with other instruments, to explore and analyzing the phenomenon and early recognize potential risk factors of violent behaviors.

Limitations and future directions

Despite the promising results the present study has some limitations that have to be addressed. In the first place, the large sample size is composed by male recruited from the general population, more in-dept studies are required to validate the ITS in a population of self-declared Incels. Due to that limitation, the third factor "enraged" values are acceptable but not excellent and more studies on different sample are required to confirm our three-factors structure. Future studies should also include general personality traits in the validation process in order to further confirm the validity of the ITS.

Conclusions

Italian validation of ITS has revealed good psychometric proprieties for the evaluation of Incels' personality traits. To date, ITS is the only published and useful instrument to early recognize Incels' traits and can be easily used in research protocol to evaluate Incels' behavioral and personality patterns. This psychometric tool will be very useful to assess the psychopathological risk factors and the behavioral characteristics associated to the Incel's attitude in the male Italian population. Therefore, the evaluation of this particular form of misogyny is fundamental to prevent the gender violence and also to avoid deviant and aggressive behaviors in Incel men.

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Conflict of interest statement

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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Authors' contributions

LF: Conceptualization and design of the research, Project Administration, Formal Analysis, Writing-Original Draft, Writing-Review & Editing; GC: Investigation-Data Collection, Writing-Original Draft, Writing-Review & Editing; ADC: Writing-Original Draft, Writing-Review & Editing; MV: Review & Editing; EAJ: Conceptualization and design of the research, Writing-Review & Editing; GC: Conceptualization and design of the research, Project Administration, Writing-Original Draft, Writing-Review & Editing.

Ethical consideration

The entire protocol was approved by the Institutional Review Board of Psychology of the Department of Psychological, Health and Territorial Sciences of the University G. d'Annunzio of Chieti-Pescara (nr. 21004).

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Eating disorders in males. An update

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SUMMARY

Objective

Despite the ever-increasing number of cases of Eating Disorders (EDs) detected in the male gender, almost all the literature review is focused on the female population. Therefore, the main aim of this research is to offer a valuable and updated contribution to the literature about the contemporary overview of EDs in male subjects, in order to activate more focused clinical reflections on specific differences with the female gender so as to provide guidance to professionals toward a better diagnostic and therapeutic understanding.

Methodology

In order to achieve the objective of the present study, an investigation of the computerized scientific literature has been conducted through the analysis of some major databases, among which PubMed, PsycINFO, and ResearchGate. A set of key words has thus been identified: "males," "eating disorder," "anorexia nervosa," "bulimia nervosa," "binge eating disorder," and "muscle dysmorphia". Studies showing similarities and differences with the female gender in terms of epidemiology, clinical specifications, diagnostic, and therapeutic features have been extrapolated with the aim of providing a theoretical-clinical update on the topic examined.

Results

From an epidemiological point of view, ED cases in males, although showing a lower incidence than in females, have been steadily increasing in recent years. Although they share some clinical aspects, ED in males differ from those found in females with respect to some concepts like the body ideal, the use of compensatory methods, and, more generally, severity and comorbidity with other psychiatric disorders. Several studies have also found that homosexual and bisexual males tend to develop ED more easily than both heterosexual males and the female population as a whole. Some studies, moreover, have also recorded the presence of ED in males in non-Western populations, highlighting how the prevalence affects more and more geographical areas. With regard to treatment, the few studies realized agree in highlighting the overlap of therapeutic strategies for both sexes, both quantitatively and qualitatively. Indeed, the guidelines suggest for both males and females a multidisciplinary approach consisting of psychotherapeutic, nutritional, medical, and pharmacotherapeutic interventions. There also does not seem to be significant differences in the course of the disorder, except for a slightly more favorable trend in the male subject.

Conclusions

Despite the fact that literature review on ED in males has considerably grown in recent years, it is of utmost importance to continue to investigate it, since several aspects still remain to be deepened by future research. Among them, in addition to specific diagnostic indications, some areas related to gender differences at the level of phenomenology, of onset, of symptom manifestations, of comorbidity, and of outcome are still under-investigated. In addition, specific psychodiagnostic tools exclusively designed for the male population are still lacking. Similarly, it might also be appropriate to think about specific ED males-calibrated treatments. Finally, most studies on eating disorders in males have focused almost exclusively on the Western population, and far fewer have considered other ethnicities, although some research has found high rates of ED among other foreign populations.

Key word: eating disorder, males, muscle dysmorphia, review, update

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Introduction

Eating Disorders (ED) represent a heterogeneous set of clinical pictures with multifactorial etiology having in common intense preoccupation with food consumption, weight, and body shape [1]. From a diagnostic perspective, the DSM-5 describes six main forms of ED: Pica, Rumination Disorder, Avoidant/Restrictive Food Intake Disorder, Anorexia Nervosa (AN), Bulimia Nervosa (BN), and Binge Eating Disorder (BED). The first three forms cited tend to occur more frequently in the developmental age, while the other three tend to onset more often in adolescence [2]; evidence that is changing in recent years since we are observing an increasingly lowering of the threshold age of onset even in cases of AN and BN [3,4]. Among the major changes from the previous edition, both the amenorrhea criterion for AN and the diagnostic category of "Disorders Not Otherwise Specified" were eliminated in DSM-5. These changes have resulted, at least partially, in a less only-female-centered population framing, in a lower frequency of residual diagnoses, and, overall, also in a more accurate estimation of ED cases [5,6]. With specific regard to the prevalence of gender, while in the past it stood at a male-to-female ratio of 1:11 [7], more recent data indicate a ratio of 1:4 [8]. Moreover, in the case of BED, the range further narrows to a male-to-female ratio of 3:4 [9]. These data therefore suggest a growth of ED in the male population as well, although according to some researchers, these data would still be underestimated [10]. This, at least in part, could be due to the absence of specific parameters for male cases, which in turn leads to a major difficulty in making diagnoses, so that symptoms are often considered sub-threshold, or are not sufficiently understood or often even overlooked unless they become particularly severe [11,12]. An example of this is given by individuals who are consistent with the diagnosis of muscle dysmorphia, which is not properly estimated as ED case because this condition has not yet been appropriately classified as a clinical manifestation of the ED spectrum [13], but rather as a body dysmorphic disorder. Another hypothesis for the underestimation could depend on the fact that, since it has always been considered as a purely female condition, males themselves are often reluctant to admit that they suffer from ED, so several years pass between the onset of symptoms and the actual taking in charge [5]. Therefore, proper diagnostic assessment is particularly important as it allows the appropriate estimation and classification of male EDs.

Epidemiology

From an epidemiological point of view, according to recent studies, the prevalence of ED male cases reaches about 25% of the general population [14]. However, in the clinical population, the prevalence rates range from 5 to 11% [15]. In addition, if only adolescence age is considered, the rate is 1.2% of cases at age 14, 2.6% at age 17, and 2.9% of cases at age 20 [16]. From a diagnostic point of view, 0.16-0.3% of male cases meet the criteria for a diagnosis of AN [8-17], 0.1-0.5% for a diagnosis of BN 7, and 1.1-3.1% for a diagnosis of BED [18]. In addition, when also considering preadolescents who require treatment for ED, studies show that about 14% of cases are diagnosed with "Avoidant/Restrictive Food Intake Disorder", among them, up to 35% are males [19]. Regarding the age of the disorder onset, gender comparison studies show a later onset in male cases than females. Specifically, in AN and BN cases, the age of onset in females is between 14-15 years, and in males between 19-20 years [20,21]. Moreover, in BED the onset is even later and majorly affects young adults [22].

Diagnostic and general features and genders differences

From a diagnostic point of view, despite the changes made by the DSM-5, as mentioned earlier, nosographic criteria are still primarily focused on eating disorders in the female population, without valuable corresponding alternatives for the male gender. One example is the BMI (body mass index) indices, whose parameters, being calibrated for the female population, are not always appropriate for male subjects [23]. Indeed, while in females weight loss reflects the severity of dysfunctional eating behaviors, in males even a normal weight condition may underlie an eating disorder, as in the case of muscle dysmorphia, in which the body ideal is aimed at increasing muscle and not at the pursuit of thinness [24]. For this reason, some researchers propose using other anthropometric indices besides BMI [25]. There are also differences in clinical characteristics between ED cases in males and females, such as compensation methods used to lose weight. Specifically, it appears that only 12.5-26% of adolescent males use restrictive diets compared to 38-50% of females [26,27]. In addition, while females tend to use more diet pills (0.7-17% females ***vs*** 0.1-4% males), laxatives (1.4-2% females *vs* 0.3-1.6% males) and self-induced vomiting (1-8.3% females *vs* 0.4-1.7% males), males tend to favor physical activity or fasting as compensatory behaviors [26]. Some differences also emerge from the perspective of psychiatric comorbidity. Especially in homosexual or bisexual males with BN and BED, anxiety or substance abuse disorders seem to be more frequent, while mood disorders would prevail in female subjects [28]. As for AN, however, in females it seems to be connected to anxiety disorders, personality disorders and adjustment disorders, while in males there would be a greater comorbidity with psychotic spectrum disorders [29,30]. However, in the study

carried out by Fichter [31], the association with personality disorders, particularly borderline and obsessive-compulsive personality disorders, also emerged in males with ED. In addition, in both males and females with ED, the use of self-injurious conduct emerged, although in males in a significantly lower percentage [32]. Moreover, several studies have shown that a history of childhood sexual abuse is also present in males with ED, although with a less strong correlation than in females [33,34]. However, it has been found that males with ED, compared to those who don't suffer from ED, report a higher incidence of physical violence, neglect, and childhood sexual abuse [35,36]. A further distinction concerns the presence of a past history of obesity as a trigger for the onset of ED. In fact, although evidently present in both sexes, a history of overweight seems to be more frequent in males diagnosed with both AN and BN (45% males *vs* 15% females) and BED [20-22]. Instead, a common feature in the etiology of ED in both males and females is the presence of perfectionism as a personality trait. Indeed, marked levels of perfectionism associated with insecurity, difficulty in interpersonal relationships, and a modest tendency to control, which have always been attributed to female patients, have also been found in males, especially with AN [37]. However, in males, perfectionism appears to be significantly correlated with fasting, while in females also with purgative behaviors [38]. Furthermore, the tendency toward perfectionism appears to moderate the relationship between body dissatisfaction and two critical components of male ED symptomatology: drive for muscularity and bulimic behaviors [39]. From this perspective, perfectionism seems to be a determinant variable in pushing patients toward the use of behaviors aimed at modifying their physical appearance in an attempt to achieve a specific bodily ideal in which the body, recalling the concept of the post-modern body [40], seems to act as an envelope of social models that are no longer ethical but aesthetic and also seems to take on a dimension in which it tends to nourish itself more on enjoyment than pleasure.

Muscle dysmorphia and male body ideal

As mentioned earlier, another important difference between ED in males and females concerns the concept of the body ideal itself. In fact, despite sharing the same body dissatisfaction, females seem to be more centered in wanting to achieve a lean body ("drive for thinness") while males, on the other hand, are more centered in achieving a muscular body ("drive for muscularity") [24-41]. More specifically, males would tend to follow strict diets associated with excessive exercise with the goal of achieving a hypertrophic body in terms of musculature [42]. This behavior, referred to as "bulkig and cutting" [43], typically presents a dual focus on both the side of pushing for thinness and the pursuit of muscle gain. During the phase defined as "bulking," or the phase of muscle gain, nutrition is focused on excessive protein consumption and extremely rigid nutritional plans [44,45] to the point that deviation from these causes severe distress [46]. The phase defined as "cutting," on the other hand, involves an extreme reduction in caloric intake with the goal of decreasing fat mass and increasing muscle definition [44,45]. This dietary restriction, however, may limit muscle development and trigger further distress with respect to body image, which in turn may lead to a maladaptive cycle of alternating between muscle building and dietary restriction [47]. This clinical condition among males, moreover, had already been identified in the past years through a study conducted on bodybuilders and was named "muscle dysmorphia" or "reverse anorexia" [48] with reference to the fact that, as in anorexia, people despite being thin tend to perceive themselves as overweight. In muscle dysmorphia, on the contrary, subjects tend to see themselves as thin even when they have achieved an important muscular physique. From an epidemiological point of view, several studies point out that this condition has increased significantly in recent decades from 15 to 43% [49], especially among athletes [14] and particularly bodybuilders [50]. Similarly, studies conducted in in the United States have shown that up to 60% of teens report adopting these practices for the purpose of increasing muscle mass [51]. Regarding the age of onset, muscle dysmorphia seems to appear in late adolescence, data that is consistent and in line with other eating disorders [52]. From a diagnostic point of view, although muscle dysmorphia has been included in the DSM-5 as a body dysmorphism disorder, according to several researchers it should be more appropriately classified as a clinical manifestation of the ED spectrum [13].

Gender identity and sexual orientation

Over the years, some studies on gender identity have found that people with gender dysphoria would also be more likely to develop ED, as a result of trying to achieve levels of thinness that would suppress their biological sex characteristics or accentuate desired gender characteristics [53]. Similarly, a correlation between sexual orientation and ED has been shown in the male population [54,55]. In particular, it was found that homosexual males exhibit more pronounced levels of body dissatisfaction, negative self-image, and are more likely to develop ED than both heterosexual males [56,57] and the female population [58,59] as a whole. Similarly, bisexual males also tend to have more frequently ED diagnoses than heterosexuals [60]. Overall, homosexual and bisexual males, compared to heterosexuals, also show more symptomatology and more extended use of

compensation methods [61] such as restrictive diets (9% homosexual *vs* 6% heterosexual), self-induced vomiting (21% homosexual *vs* 4% heterosexual), diet pills (19% homosexual *vs* 4% heterosexual) but also more binge eating (25% homosexual *vs* 11% heterosexual) [54,62-64]. One of the possible hypotheses for the higher number of ED among homosexual and bisexual males might relate to the fact that, like the female population, they tend to center their self-esteem more on aesthetic standards and beauty ideals [65]. For the same reason, adopting more feminine roles and behaviors could also in itself lead to an increased risk of developing ED [62,64,66]. Finally, the increased pressure on physical appearance could be justified by the fact that, like females, they are the object of sexual attention from males [67], who, according to some studies, would prefer their partners from an aesthetic point of view, who tend to be thin and of well-groomed appearance [68]. Again, with regard to the sexual sphere, some studies have shown that in males with AN, compared to females, there is a higher rate of rejection of sexual activity [69]. Specifically, about 30% of the men did not report sexual urges, likely due to hormonal decrease due to underweight [70]. Similarly, another study also found that 75% of cases showed decreased libido [71]. In addition to this, they also showed sexual anxiety in front of both heterosexual and homosexual behaviors. 72% of the study subjects were 18 years old or even older, but despite having the age of majority, only 30% had been in a relationship with a girl. In addition, behaviors typical of the opposite sex during childhood and adolescence were reported in 65% of the patients, and 20% said they would have preferred to be female.

Treatment, course, and outcome

With regard to the treatment, the few studies realized agree in highlighting the overlapping therapeutic strategies for both sexes, both quantitatively and qualitatively [72]. Indeed, the guidelines suggest for both males and females a multidisciplinary approach consisting of psychotherapeutic, nutritional, medical, and pharmacotherapeutic interventions that is absolutely identical for both males and females. Even with regard to the course of the disorder, there also does not seem to be significant differences, except for a slightly more favorable trend in the male subjects. Specifically, in a follow-up study of 102 females and 36 males diagnosed with AN, both were found to be similar in both premorbid features and in the stage of overt disease, including prognosis [73]. In another study [69], however, a high percentage of male patients with AN showed during follow-up stage the achievement of a body weight > 85% of the average weight of the nonclinical population, similar to what was found in females. Despite the improvement in parameters, however, none achieved a normal weight, and in most cases concerns about weight and nutrition remained. It is notable, however, that males, compared with females, tended to have a better prognosis and faster recovery. More generally, several studies report symptom remission rates in males ranging from 1 to 11%, and improvement in itself from 20 to 33% [74,75]. These data are also consistent with another study [76] during which it was found that males, with respect to outcome, report higher rates of symptom remission following integrated treatment compared to females. A more ominous prognosis in both AN and BN cases, however, correlates with the duration of the disorder, with associated medical complications, with the presence of impulsive behaviors, and with the presence of self-induced vomiting as a compensatory mode [76]. With respect to mortality, research by Gueguen [77] found no differences between the sexes during hospitalization, but some male patients instead died earlier than females after discharge. The deceased patients included criteria such as higher age, lower BMI and a diagnosis of AN of the restricted subtype. More generally, the same study found a standardized mortality ratio in males with AN of 8.1 (95% CI 1.6-23.6) and specifically 13.2 (95% CI 2.7-38.6) for the restricted subtype. Another study [78] showed, compared to the control population, a standardized mortality ratio in males of 3.6 (95% CI 1.4-9.4) in both AN and BN and BED cases. Again, there were no significant differences in deaths between males and females, however, as in the previous study, more males died during the follow-up. However, this finding, according to the authors, could depend on the overall higher mortality rate in the general male population than in the general female population.

Conclusions

The studies carried out in recent years on ED on the male population have allowed a better understanding of the phenomenon and greater clarity in terms of epidemiology, clinical and therapeutic features. Also the changes made by the DSM-5 to the category of dietary EDs have allowed a more accurate diagnosis for the male population [6]. However, although these changes have allowed an improvement in terms of diagnosis, it would have been appropriate to also include a specific indication that would take into consideration, in addition to the criterion of a body ideal oriented to thinness, also the one directed to musculature, which, as emerged from the numerous studies, seems to be more specific in male subjects. In fact, precisely in view of the specificity of muscle dysmorphia in males, it would have been more appropriate to include this clinical picture among ED so as to enable more appropriate interception of sufferers. In parallel, in light of gender differences with respect to

body ideal, symptomatology, and comorbidity, it might be useful to produce further studies with the aim of understanding the phenomenology of ED in males even better. Furthermore, almost all psychodiagnostic instruments have been calibrated for the female population; therefore, a future goal could be to produce tests and assessment tools specifically designed for males. Similarly, although the guidelines have not yet considered different treatments based on gender, it might also be appropriate to consider specific therapies designed for the male population given that, despite sharing some clinical elements, there are specific differences with ED in females. At the same time, even with respect to outcome studies, almost all have focused only on AN, whereas other EDs should be appropriately investigated as well. Again, in view of the increased risk of developing ED especially among homosexual and bisexual males, research could be expanded to include those who fit the criteria of gender dysphoria and thus identify as transgender or gender fluid. Likewise, in view of the few studies present, it might be appropriate to thoroughly investigate the correlation between childhood trauma and ED even in males as a possible readout of a post-traumatic syndrome. Finally, most studies on ED in males have almost entirely examined subjects belonging to the Western population, and far fewer have considered other ethnicities, although some research has shown high rates of ED, for example, even among Latino and African American boys [79-81]. Similarly, it would be important to assess the presence and impact of ED in migrant people as well, since, taking into account the specific cultural meanings of body and nutrition for them, there are increasingly frequent cases that report an overt and established diagnosis of AN or BN [40]. Therefore, given the constant increase of the number of cases detected, it would be desirable for research to extend to other ethnic groups, so as to intercept dietary ED in other geographical areas as well.

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Conflict of interest statement

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Ethical consideration

The articles that contributed to this review were reviewed by considering international ethical standards.

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Original article

Bullying in Autism Spectrum Disorder: prevalence and consequences in adulthood

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SUMMARY

Autism Spectrum Disorder (ASD) is characterized by typical pattern of communication and relational skills associated with repetitive verbal and motor behaviors and restricted patterns of interest. Among neurodevelopmental disorders, autistic students are at increased likelihood of being bullying victims. In autism, bullying victimization is significantly associated with internalized and externalized symptoms and poor quality of life.

The present study aims to verify the presence of bullying victimization in autistic people, the distribution of such phenomenon among autism severity levels and inquires the presence of psychopathological co-occurrence in autistic adults who were victims of bullying with respect to non-bullied ones. The present study demonstrates that bullying is common among autistic people. Within autism wide expression range, bullying occurs in almost all situations related to ASD Level 1. Finally, bullying is a trigger for psychopathology in adolescence and adulthood.

Key words: autism, bullying, adult, psychopathology

Introduction

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder characterized by persistent deficits in social communication and interaction as well as restricted and repetitive behaviors with a prevalence of 1:44% in the general population [1,2]. ASD is characterized by deficits in socio-emotional reciprocity, impaired verbal and non-verbal communication skills, and an inability to develop and maintain adequate social relationships with peers, often associated with repetitive verbal and motor behaviors, restricted patterns of interest, need for a predictable and stable environment and hypo- or hypersensitivity to sensory inputs and social vulnerability [2].

Several studies have indicated that students with disabilities are at greater risk for experiencing bullying than typically developing students [3]. Between neurodevelopmental disorders, ASD students are notably vulnerable to bullying involvement [4,5]. This is due to deficits in social communication [6], as well as difficulty with empathy [7,8], difficulties in social understanding and in their own and others behaviour comprehension [9,10]. Furthermore, behavioral difficulties, insistence on sameness or hyper-responsiveness to sensory stimulus, are risk factors for bullying victimization as well [11-13].

According to Olweus (1994; p. 1173): *A student is being bullied or victimized when he or she is exposed, repeatedly and over time, to negative actions on the part of one or more other students*. Bullying is characterized by the following criteria: (a) It is an aggressive behavior or intentional "harmdoing" (b) which is carried out "repeatedly and over time" (c) in an interpersonal relationship characterized by an imbalance of power [14].

In the general population, researchers suggested that bullying victimization in children and adolescents has enduring effects, which may persist into adulthood [15-17]. Studies have examined adverse health and psychosocial problems associated with bullying victimization. Children who were

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victims of bullying are at high risk for internalising problems in young and middle adulthood (18-50 years of age) [18]. Being bullied at school is identified as a precursor of later development of depression and anxiety [19-21], personality disorders [22-24] and an increased risk for displaying psychotic experiences at age 18 [25].
In children and adolescents with ASD, bullying victimization was significantly associated with higher levels of internalizing and externalizing mental health problems [26-29]. Children who have been victimized have a higher risk of depression [27], anxiety [30], suicide [31], poor quality of life [32] and poor educational outcomes [33]. Additionally, among the wide ASD expression range, high rates of bullying victimization are reported in ASD level 1 [34,35].
In adolescence and later in adulthood, bullying is a trigger for psychopathology [36]. The high level of psychopathologies comorbidities that may arise, the specific needs and a wide array of difficulties due to ones insertion in society, make autism condition increasingly complex to handle in adulthood.
The present study aims to verify the presence of bullying victimization in ASD individuals, the distribution of such phenomenon among autism severity levels and inquires the presence of psychopathological co-occurrence in ASD adults who were victims of bullying with respect to non-bullied ones.

Participants

Participants were adults referred to the Regional Centre for Autism in Adulthood. All participants are diagnosed with ASD. 78% (n = 361) individuals are male, 22% (n = 103) are female. Age ranges between 18 and 50 years old, with a mean value (M) of 29,93 and a standard deviation (SD) of 6,83. Among all ASD individuals, 42% (n = 194) are diagnosed with ASD level 1; 30% (n = 138) are diagnosed with ASD level 2; 20% (n = 91) are diagnosed with ASD level 3 (ASD levels according to DSM5 criteria - APA, 2013).

Methods

Each participant was evaluated utilizing the *Multistep Network Model* (as described in Keller et al., 2020). It is a multistep diagnostic and evaluation assessment, which integrates diagnostic evaluation with an individualized life project.
The *Multistep Network Model* is summarized in the following for ease of reference. For a detailed description of each step, please refer to Keller et al., 2020.

1. Meeting with the parents or direct meeting with the person, in case of suspected ASD high functioning. This meeting is individualized and dialogue-based but foresees a structured information's recollection about: a) a wide range of life history topics (for example: the course of gestation, onset of speech, possible bullying, etc.); b) carried out interventions; c) needs and expectations;
2. Meeting with the patient him- or herself. This meeting is intended for: a) welcoming and creating a human supporting relationship; b) clinical evaluation of the symptoms presented; c) clinical evaluation of any psychopathological symptom in co-occurrence; d) objective neurological evaluation; e) clinical evaluation of cognitive functioning with WAIS-IV [37] or Leiter-3 [38];
3. Assessment of the intellectual profile by using appropriate tests for the level of clinical functioning and, if necessary, neuropsychological testing;
4. Evaluation tests for suspected autism: ADI-r [39], ADOS module 4 [40] or RAADS [41];
5. Evaluation of the adaptive functioning profile with ABAS-II [42]. Test evaluation of psychopathological functioning – if there is a clinical suspicion – with SCID-5 [43] or MMPI-2 [44] for intellectual functioning evaluation.
6. Medical evaluation focused on general health and specific conditions of neurodevelopment, including neuroimaging, genetic, metabolic evaluation, Electroencephalogram (EEG);
7. Network meetings between the Centre for Autism in Adulthood, family members and all the operators involved in the clinical management of the patient, aimed to the creation of a life project;
8. Activation of an enabling path provided directly by the centre and/or presentation of the project to a Medico-Legal/Social Health Assessment Committee for evaluation of its appropriateness and budget allocation.

All clinical evaluations and testing were conducted in the centre upon written informed consent signed directly by the participants or their legal guardians, authorizing data collection and processing as well.

Results

With respect to the total ASD sample, 30% (n = 137) of individuals experienced bullying. Specifically, 77% (n = 105) individuals are male and 23% (n = 32) are female. Age ranges between 18 and 50 years old, with a mean value (M) of 30,04 and a standard deviation (SD) of 6,97. Complete data are reported in Table I and Figure 1. As shown in Figure 1, among all bullied ASD individuals, 65% (n = 89) are diagnosed with ASD level 1; 21% (n = 29) are diagnosed with ASD level 2; 7% (n =9) are diagnosed with ASD level 3 (ASD levels according to DSM5 criteria - APA, 2013). The remaining 7% of individuals is currently under evaluation.
Co-occurrence can be found in 65% (n = 89) of ASD bullied individuals. Relevant psychopathological co-

TABLE I. *Bullied ASD sample description.*

Sample	N	%	
Male	105	77	
Female	32	23	
Age	M = 30.04	SD = 6.97	Range: 18-50 years
ASD*	**N**	**%**	
Level 1	89	65	
Level 2	29	21	
Level 3	9	7	
Evaluation in progress	10	7	

**according to DSM5 criteria (APA, 2013)*

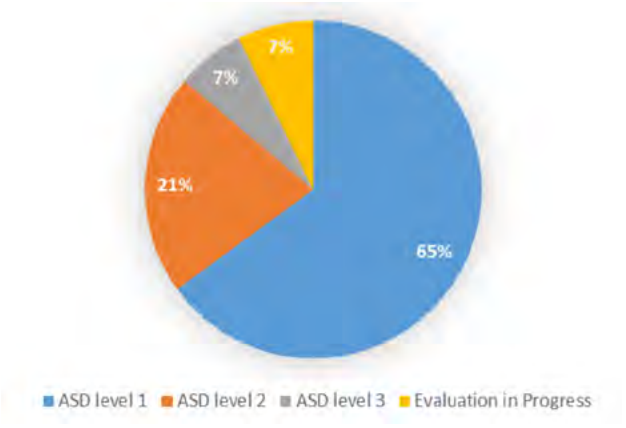

FIGURE 1. *Bullying across ASD levels.*

morbidities: Personality Disorders (18%; n = 24); Attention Deficit Hyperactivity Disorder (ADHD) (8%; n = 11) and Challenging/problem behaviour (7%; n = 10); Psychosis (7%; n = 10); Obsessive-Compulsive Disorder (DOC) (7%; n = 9); Depression (6%; n = 8). Co-occurrence wad found in 54% (n = 177) of non-bullied ASD individuals. Relevant psychopathological comorbidities: Challenging/problem behaviour (14%; n = 46); Personality Disorders (8%; n = 26); Attention Deficit Hyperactivity Disorder (ADHD) (5%; n = 17); Depression (4%; n = 12); Psychosis (3%; n = 10) and Obsessive-Compulsive Disorder (DOC) (2%; n = 8). The complete data are described in Table II.

Main psychopathological co-occurrence comparing bullied and non-bullied ASD sample across levels are reported in Figure 2.

TABLE II. *Psychopathological and neurological co-occurrence in bullied and non-bullied ASD sample.*

Co-occurrences	N (B|NB)	% (B|NB)
Personality disorders	24 | 26	18% | 8%
Attention Deficit Hyperactivity Disorder (ADHD)	11 | 17	8% | 5%
Challenging/problem behavior	10 | 46	7% | 14%
Psychosis	10 | 10	7% | 3%
Obsessive-Compulsive Disorder (DOC)	9 | 8	7% | 2%
Depression	8 | 12	6% | 4
Epilepsy	5 | 18	4% | 6%
Anxiety disorders	4 | 6	3% | 2%
Specific learning disorder	2 | 2	1% | 1%
Down syndrome	2 | 3	1% |1%
Bipolar disorder	1 | 4	1% | 1%
Tourette syndrome	1 | 2	1% | 1%
Deafness	1 | 2	1% | 1%
Turner syndrome	1 | 0	1% | 0%
Others*	0 | 21	0% | 8%

*Notes: B: bullied; NB: non-bullied; *others: movement, eating, language oppositional defiant disorders, Fragile X Syndrome, Blindness, Chron, Gastrointestinal diseases*

Discussion

The primary aim of this study was to investigate bullying victimization among ASD people. Our results showed that a high percentage (30%) of the total ASD sample have experienced bullying in their life. Autistic condition makes ASD people more involved in bullying victimization. These findings are in line with research suggesting that students with ASD are at higher bullying victimization risk compared to typically developing students [45,46]. In our study, autism severity plays a role in bullying victimization. It is interesting to note the high levels of bullying presence – 65% – in ASD level 1 among the bullied sample (DSM5 criteria, ASD Requiring support [2]). One plausible explanation for the higher percentage of bullying victimization in ASD level 1 could be related to the minor protection dedicated to them with respect to ASD level 2 and 3. ASD level 1 individuals spend much time in less protected settings, this in turn may expose them at greater risk of being bullied [27]. This interesting finding would help explain the high rates of ASD level 1 victimization that have been reported in previous research [34,35,47].

Above all, among the different autism levels, patients in ASD level 1 are the most undiagnosed and they appear to be at high risk of psycho-traumatic events. Thus, it is

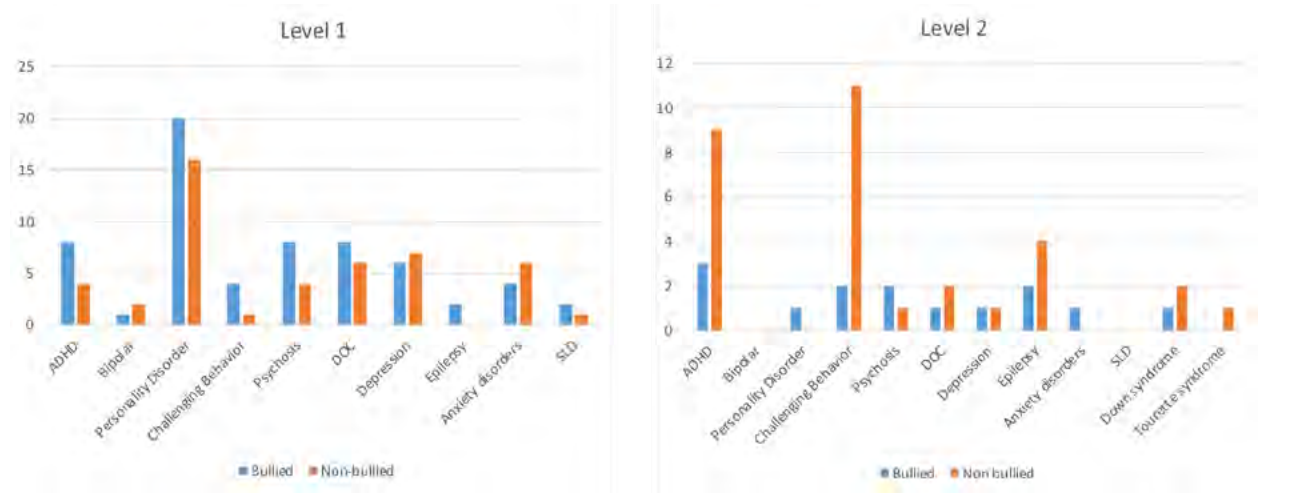

FIGURE 2. *Main psychopathological co-occurrence comparing bullied and non-bullied ASD sample across levels.*

essential to diagnose it, in order to provide more protection trying to prevent peer aggression.

Concerning gender**,** it is well known that autism has a strong dominance in male gender. As expected, bullying was found being more frequent in autistic males (77%). This is due to the total sample composition, as previously stated 78% male and 22% female. The small sample of ASD females makes it difficult to assess gender differences in bullying-related behaviours. Females are the most often under-diagnosed ASD population, probably because they develop a socio-communicative compensatory ability and they seem more empathetic, compared to autistic males. On the other hand, they have a high social vulnerability that exposes them to the risk of abuse [48]. For this reason, autistic symptoms in females should be carefully assessed and recognized. Despite being common in literature to have a small proportion of ASD females [49,50], it is essential to conduct further research on bullying prevalence and gender difference.

On one hand, autism is widely recognized as a vulnerability factor for psychopathology co-occurrence in adulthood. On the other hand, many studies have focused on bullying consequences on autistic adults who were victimized. Those adults face both the psychopathological consequences of being bullied and the ones of being autistic. In order to verify the psychopathological comorbidities in ASD bullied adults, we performed a psychopathological co-occurrence analysis in both study samples (bullied and non-bullied ASD across levels).

Concerning the bullied ASD sample, co-occurrence was found in 65% (54% in non-bullied ASD). Consistent with literature, autism itself is a vulnerability factor for psychopathology co-morbidities [51-54]. Our results confirm that bullying victimization in ASD individuals is related to later development of psychopathology, behavioural and emotional problems [55-58]. Furthermore, considering ASD severity, co-occurrence for level 1 in bullied sample (71%, n = 63) is greater than non-bullied sample (50%, n = 47). At level 2, the bullied sample has the higher co-occurrence rate (51,85%, n = 27) compared to non-bullied sample (30,39%, n = 102). Eventually, when considering level 3 there are no significant difference among bullied (55,56%, n = 9) and non-bullied sample (55,13%, n = 78).

Firstly, Challenging/Problem Behaviour (CB) co-occurrence was found in 7% of bullied sample (14% in non-bullied ASD). CB is frequent in adults with ASD and it may increase the prevalence rates of mental health problems as a consequence of psychological and social interacting factors [59,60]. Particularly, in ASD population, being bullied is associated with higher levels of self-injurious and stereotypic behaviours [30]. Secondly, personality disorders co-occurence was found in 18% of bullied sample (8% in non-bullied ASD). This finding confirms other studies that indicated an increased risk of personality disorder co-occurrence in ASD [61,62]. Psychopathological co-occurrences revealed a similar comparison when considering comorbidity among ASD levels. As it can be seen in Figure 2, personality disorders are the main psychopathological co-occurrence in bullied ASD, primary in ASD level 1. The higher the ASD severity level the less is possible to find this co-occurrence between personality disorders and ASD. This is due to the high level of behavioural problems that are present in the majority of people with ASD at level 2 and 3. Interestingly, CB co-occurrence was found to

be higher in non-bullied ASD than in bullied ones when considering ASD level 2 and 3. The trend of challenging behaviour is the opposite in ASD level 1. The association between CB and ASD is well-reported in ASD literature [63-65].

Co-occurrence of Attention Deficit Hyperactivity Disorder (ADHD) was found in 8% of bullied ASD (5% in non-bullied ASD). Indeed, several studies have shown that ADHD is often co-morbid with ASD [66,67] even if this percentage should be regarded as continuous neurodevelopmental disorders instead of categorical comorbidities [68]. ADHD co-occurrence is more frequent in bullied ASD with respect to non-bullied ASD non considering differences across ASD severity levels. This result is in line with the literature. ASD children who were victims of bullying have higher levels of hyperactivity [30]. However, when considering differences among levels, the pattern is the opposite: hyperactivity diagnosis is more present in ASD level 2 non-bullied sample compared to bullied peers.

Additionally, we found depression co-occurrence in 6% of bullied sample (4% in non-bullied ASD). Anxiety co-occurrence was found in 3% in bullied sample (2% in non-bullied ASD). Consistent with previous findings, ASD victims of bullying in childhood are at increased risk of anxiety [69,70] and depressive symptomatology in adulthood [27,71]. These symptoms can lead to poor quality of life and lack of the necessary independence in adolescents and in adulthood. As expected, bullied ASD showed a bit higher level of co-occurrence depression with respect to non-bullied ASD. These findings are in line with the literature. Indeed, ASD victims of bullying in childhood are at increased risk of development a depressive [27,71]; even thought this co-occurrence has a small effect in our sample. In fact, small significant differences are found among depression when considering the comparison between bullied and non-bullied participants across levels.

We found psychosis co-occurence in 7% of bullied sample (3% in non-bullied ASD). In neurotypical individuals, continuous exposure to stress (as bullying) is related to the development of psychotic symptoms [25,72,73]. Peer victimization predicts psychotic experiences in early adolescence [74,75] and these in turn may increase the likelihood of later psychotic experiences [76]. Bullied ASD showed higher level of psychosis with respect to non-bullied ASD consistently at level 1 and 2. In the general population, having experienced bullying victimization in associated with psychotic symptoms in adulthood [25,72,76].

Finally, co-occurrence of ASD and obsessive-compulsive disorder (DOC) was found in 2% of bullied ASD participants (7% in non-bullied ASD). In the general population, childhood bullying experiences are associated with obsessive-compulsive symptom [77]. Bullied ASD showed higher level of DOC when compared to non-bullied ASD when considering ASD level 1. Instead, at level 2, an opposite trend is present. In the general population, childhood bullying experiences are associated with obsessive-compulsive symptom [77]. Lastly, as it can be seen in Figure 2, no relevant difference was found in the Specific Learning Disorder (SLD) and Bipolar disorder co-occurrence between the two samples.

Conclusions

Bullying is a worldwide phenomenon and needs to be urgently addressed. Autistic people are at greater risk for bullying-victimization and, as our study demonstrated, bullying has a negative impact on their psychosocial development.

Among autism wide expression range, bullying occurred in almost all situations related to ASD level 1, probably due to the minor protection they experience compared to the most sever ASD levels.

In the present study, several adult autistic people that have experienced bullying in life showed higher levels of psychopathological co-occurrence, when compared to ASD non-bullied individuals. Therefore, it could be argued that bullying is a trigger for psychopathology in adolescence and later in adulthood.

Careful attention must be given to autistic people starting from childhood. It is essential to protect these already vulnerable children from bullying. We need to rethink our school system, in order to create a cultural challenge where neurodiversity should be valorised and accepted. It might be worth creating specific school programs to make children encounter and embrace neurodiversity.

Limitations and future directions

Possible limitations of this study are the following: lack of bullying presence verification through psychometric instruments but only based on self-report.

Despite these limitations, the current study has a number of strengths. Our research relies on a very large sample size consisting uniquely of autistic people. It advances the understanding of the bullying among people with different autism severity levels. The findings reveal the need for careful investigation of bullying-related phenomena in ASD level 1 people. Moreover, it sheds light on the possible psychopathological co-occurrence later in adulthood.

Subsequent research should implement results on bullying victimization among autistic people with longitudinal studies.

Implication for practice

These data may offer useful indications for clinician in autism field. During ASD evaluation, it might be useful to

assess bullying victimization because this could have an impact on psychopathological co-occurrence development probability in adulthood. Finally, the present study may also be useful to raise schoolteachers' awareness in bullying prevention among autistic students.

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Conflict of interest statement

No conflict of interest was reported by the authors.

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Author contributions

Ferrigno S. and Keller R. conceived, planned and carried out the research. Ferrigno S. and Cicinelli G. contributed to the interpretation of the results. Ferrigno S. took the lead in writing the manuscript. All authors provided critical feedback and helped shape the research, analysis and manuscript.

Ethical consideration

The manuscript is a retrospective case report that does not require ethics commitee approval at the institutions. Written informed consent was obtained from each participant for study participation and data pubblication at the firm access to the mental health center.

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Original article

Perfectionistic self-presentation and body dysmorphic features in a sample of community-dwelling adult women

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SUMMARY

Objectives

Perfectionism is considered a vulnerability factor for distress and psychopathology. It has also been linked to Obsessive Compulsive disorder-related disorders, including Body Dysmorphic Disorder (BDD). Moreover, previous studies showed that BDD features were associated to personality pathology. To our knowledge, there are no studies investigating the associations between perfectionistic self – presentation, the interpersonal dimensionn of perfectionism, and BDD features.

Methods

In a sample of 494 Italian community-dwelling adult female participants, we investigated the contribution of Perfectionistic Self- Presentation (PSP) and DSM-5 dysfunctional personality domains in predicting BDD features. Furthermore, we evaluated the associations between PSP and BDD features over and above the role of dysfunctional personality domains. The participants were administered the Perfectionistic Self-Presentation Scale, the Personality Inventory for DSM-5-BF (PID-5-BF), the Body Dysmorphic Disorder Dimensional Scale and the Appearance Anxiety Inventory.

Results

The regression analyses results showed that PSP was significantly associated with BDD features and produced a modest but significant increase in the prediction of BDD features when controlling for the PID-5-BF domains.

Conclusions

Our data seem to support the usefulness of considering PSP as a clinical marker for BDD vulnerability, over and above the role of personality domains, and suggest to assess both dysfunctional personality features and the interpersonal dimensions of PSP in prevention and early intervention programs for BDD.

Key words: perfectionistic self presentation, dysfunctional personality domains, body dysmorphic disorder features, community-dwelling female

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Introduction

Perfectionism can be defined as the proneness to set high standards of performance together with tendencies for overly critical evaluations of one's own behavior, expressed in overconcern for mistakes and uncertainty regarding actions and beliefs [1].

Some evidence [1,2] suggested that perfectionism represents a multidimensional construct including interpersonal and intrapersonal dimensions.

Hewitt et al. (2008) [3] developed a perfectionism model that involves three broad domains of personality: perfectionism traits [2], automatic cognitive process [4] and perfectionistic self-presentation style [5]. Trait perfectionism [2] was conceptualized as three separate and stable dimensions: self-oriented perfectionism, other-oriented perfectionism and socially prescribed perfectionism, while perfectionistic self-presentation (PSP) focuses on the expression of one's supposed perfection to others. According to Hewitt

et al. (2003) [5] model, perfectionistic self-presentation includes three facets: Perfectionistic self-promotion, Nondisplay of Imperfection and Nondisclosure of Imperfection.

Perfectionism is considered a vulnerability factor for distress and personality pathology [6,7]. Moreover, a clinical review [8] suggested that participants with eating disorders, anxiety disorders and mood disorders showed elevated rates of perfectionism. These findings seem to suggest that perfectionism is a transdiagnostic feature, contributing to the onset and maintenance of psychopathology.

Perfectionism has also been linked to Obsessive Compulsive Disorder (OCD) [9] and Obsessive-Compulsive disorder-related disorders, including Body Dysmorphic Disorder (BDD) [10]. BDD is characterised by preoccupation with perceived physical flaws, which the individual considers as "unattractive, abnormal or deformed" [11]. BDD prevalence among adults ranges from 1.7 to 2.4% [11] and data show that 9-15% of dermatologic patients and up to 10% of cosmetic surgery patients have BDD symptoms [11]. People with high levels of perfectionism may focus even on small physical flaws and be highly distressed by them [12]. Moreover, they could think that other people are judging them because of their imperfections, and this could increase their risk to develop BDD [13].

Empirical studies show that both self-oriented and socially prescribed perfectionism represent risk factors for BDD symptoms among students [13]. Moreover, perfectionism and selective attention predicted dysmorphic concerns in a sample of university students [14] and self-oriented perfectionism predicted BDD symptoms among adolescents [15].

To our knowledge, there are no studies investigating the associations between perfectionistic self-presentation and BDD features. However, McGee et al. (2005) [16] found that PSP dimensions, whose goal is to show other people a flawless image, interacted with body image dissatisfaction in predicting eating disorders.

Previous studies found that BDD is also associated with personality disorders (PDs) and dysfunctional personality features. In particular, BDD seems to be associated with paranoid [17,18], schizotypal [18,19], avoidant [17,19-21], obsessive-compulsive PDs [17,20,21] and with dependent [20,21] and borderline PDs [22]. Recently, Somma et al. (2020) [23] found that the personality profile of community – dwelling women with BDD, evaluated with DSM – 5 Section III Alternative Model of Personality Disorders (AMPD), is described by an impairment in self-functioning (AMPD Criterion A) together with AMPD Criterion B dysfunctional features of Depressivity, Anhedonia, Anxiousness, Perseveration, Separation insecurity, and Cognitive and perceptual dysregulation. Moreover, the BDD dysfunctional personological profile was completed by Submissiveness, Unusual beliefs, Eccentricity, Distractibility, and Hostility [23].

Starting from these considerations, the aim of the present study is to evaluate the associations between BDD, PSP and dysfunctional personality traits in an adult community-dwelling sample. In particular we hypothesized that:

1. PSP significantly predicts BDD features;
2. Dysfunctional personality features as listed in DSM – 5 Section III Alternative Model of Personality Disorders (AMPD) significantly predict BDD features;
3. PSP explains a significant amount of variance in BDD scores over and above the effect of dysfunctional personality traits.

This study was carried out in a female sample since evidence suggest that BDD is significantly more prevalent among women [24] and shows significant differences between females and males in age of onset and psychiatric comorbidities [25].

Methods

Subjects

The sample was composed by 494 Italian adult female participants who responded to an online survey (mean age = 32.66 years; SD = 14.26). Two hundred eighty - four (59.5%) participants were unmarried, 176 (35.6%) married, 22 (4.5%) divorced and 2 (0.4%) were widows. The work profile of the sample was characterized by 193 (39.1%) students, 146 (29.6%) office workers, 65 (13.2%) self-employed professionals, 24 (4.9%) unemployed, 23 (4.7%) laborers and 16 (3.2%) housewives. Finally, 14 (2.8%) participants were managers and 13 (2.6%) retirees. Concerning participants' education level, 212 (42.9%) participants had university degree, 206 (41.7%) had high school degree, 46 (9.3%) had junior high school degree and 30 (6.1%) reported post graduate education.

All participants volunteered to take part in the study and provided a written informed consent for participation after a complete and extensive description of the current research. Moreover, the questionnaire began with a detailed explanation of the processing of personal data and respect for privacy. All data were treated anonymously and in an aggregate form. None of the participants received an incentive for participating. The study was conducted in line with the Code of Ethics of the World Medical Association (Declaration of Helsinki).

Measures

Personality Inventory for DSM-5 Brief Form (PID-5-BF) [26]

The PID-5-BF is a 25-item self-report used to assess the five DSM-5 Section III domains of Negative Af-

fectivity, Detachment, Antagonism, Disinhibition, and Psychoticism. Each domain scale consists of 5 items and each PID-5-BF item is scored on only one PID-5-BF domain scale. The PID-5-BF items come from the 220-item self-report PID-5 and each PID-5-BF item is rated on a 4-point scale (i.e., 0 = very false or often false; 1 = sometimes or somewhat false; 2 = sometimes or somewhat true; 3 = very true or often true). Moreover, the PID-5-BF yields a score for the overall measure. The Italian version of PID-5-BF showed adequate psychometric properties [27].

Perfectionistic Self – Presentation Scale (PSPS) [5]

The PSPS is a 27 item self – report measure that evaluates the multidimensional nature of PSP. It is composed by 3 subscales: Perfectionistic self-promotion, Nondisplay of imperfection and Nondisclosure of imperfection. Items are scored on a 7 – point Likert scale ranging from "I totally disagree" to "I totally agree". Reliability and validity data are showed in both English [5] and Italian [28].

Body Dysmorphic Disorder Dimensional Scale (BDD-D) [29]

The BDD – D is a 5-item scale developed to assess the DSM-5 diagnostic criteria for BDD. All items are rated on a 5 – point Likert scale. The BDD – D also yields a total score that is the sum of the individual items scores. The BDD-D demonstrated adequate psychometric properties both in the original [29] and in the Italian version [23].

Appearance Anxiety Inventory (AAI) [30]

The AAI is a self-report questionnaire comprised of 10 items that evaluates the cognitive processes and safety seeking behaviors associated to a distorted body image and shame in participants with BDD. Participants scored each item on a 5 – point Likert scale ranging from 0 ("Not at all") to 4 ("All the time"). The AAI total score is the sum of the item scores. Adequate psychometric properties have been provided for the original [30] and the Italian version [23].

Data analysis

Cronbach's alpha coefficient was used to evaluate the internal consistency reliability of the measures that were used in this study. Pearson's r coefficient was used to evaluate the association between continuous variables. In all bivariate analyses, the nominal significance level (i.e., $p < 0.05$) was corrected according to the Bonferroni procedure for multiple comparisons.

To investigate the predictors of BDD-D and AAI, we carried out hierarchical regression analyses. Only potential predictors that were significantly associated with the dependent variables following the Bonferroni correction were included in the model. In the first models we entered as predictors of BDD-D and AAI scores the PSPS scales whereas in the next models we considered as predictors the PID-5-BF domains scores. In both models the participant's age was entered in the first step. Finally, we evaluated whether the PSPS scales predicted BDD-D and AAI scores over and above the PID-5-BF dysfunctional domains. The multicollinearity was tested by means of variance inflation factors (VIFs), with 2.5 or higher used as a cut-off for identifying multicollinearity that could negatively impact the regression models [31]. To identify eventual first-order linear auto-correlations, Durbin-Watson values were computed: values between 1.5 and 2.5 were considered acceptable.

Results

In Table I are listed the descriptive statistics, the internal consistency values and the correlations with participant's age.

The bivariate associations of PSPS and PID-5-BF scales with BDD-D and AAI are listed in Table II.

In all hierarchical regression analyses, the participants' age was entered in the Step 1.

The first model showed that, when the PSPS scales were entered in the regression equation predicting BDD-D, the adjusted R^2 value was .14, $p < .001$; Perfectionistic Self-Promotion and Nondisclosure of Imperfection resulted significant predictors ($\beta = .14$, $p < .05$ and $\beta = .20$, $p < .001$ respectively). We obtained similar results when we considered the AAI score as dependent variable: the PSPS scales explained the 9% of the variance (adjusted $R^2 = .19$, $p < .001$), Perfectionistic Self -Promotion ($\beta = .20$, $p < .001$) and Nondisplay of Imperfection ($\beta = .22$, $p < .001$) were found as significant predictors of AAI score.

When we considered the PID-5-BF domain scores as independent variables and the BDD-D as dependent variable, the adjusted R^2 value was .21, $p < .001$; the BDD-D score was significantly predicted by Negative Affectivity ($\beta = .27$, $p < .001$), Detachment ($\beta = .15$, $p < .001$), Antagonism ($\beta = .12$, $p < .01$) and Psychoticism ($\beta = .11$, $p < .05$). Moreover, Negative Affectivity ($\beta = .27$, $p < .001$), Detachment ($\beta = .12$, $p < .005$) and Antagonism ($\beta = .15$, $p < .001$) were associated with AAI score; the model explained the 22% of the variance (adjusted $R^2 = .22$, $p < .001$). In all regression models all the VIFs were < 2.5, excluding multicollinearity problems. Also, all the Durbin-Watson values were between the two critical values of $1.5 < d < 2.5$, showing that there was no first-order linear auto-correlation in our multiple linear regression data.

Table III presents the hierarchical regression analyses results. These models considered the BDD-D and the AAI scores as dependent variables. The PID-5-BF domain scales were entered in the regression equation in Step 2 and the PSPS scales were added as predictors in the equation in Step 3.

TABLE I. *Perfectionistic Self-Presentation Scale, Personality Inventory for DSM-5-Brief Form, Body Dysmorphic Disorder Dimensional Scale, Appearance Anxiety Inventory: descriptive statistics, Cronbach a values and correlation with age (N = 494).*

	M	*SD*	α	*r*
PSPS scales				
Perfectionistic self-promotion	38.69	12.15	.88	.52
Nondisplay of imperfection	42.10	12.42	.88	.53
Nondisclosure of imperfection	22.94	7.50	.76	.36
PID-5-BF				
Negative affectivity	1.61	.69	.70	.52
Detachment	.79	.60	.66	.30
Antagonism	.52	.51	.72	.36
Disinhibition	.92	.62	.71	.23
Psychoticism	.95	.74	.80	.38
BDD-D	5.75	4.22	.92	-.34
AAI	13.84	9.52	.91	-.46

Note. PSPS: Perfectionistic Self-Presentation Scale; PID-5-BF: Personality Inventory for DSM-5-Brief Form; BDD-D: Body Dysmorphic Disorder Dimensional Scale; AAI: Appearance Anxiety Inventory; α: Cronbach's alpha; r: Pearson Correlation coefficient

TABLE II. *Bivariate Pearson correlation analyses between Perfectionistic Self-Presentation Scale, Personality Inventory for DSM-5-Brief Form, Body Dysmorphic Disorder Dimensional Scale and Appearance Anxiety Inventory (N = 494).*

	BDD-D *r*	AAI *r*
PSPS scales		
Perfectionistic self-promotion	.42*	.52*
Nondisplay of imperfection	.41*	.53*
Nondisclosure of imperfection	.38*	.38*
PID-5-BF		
Negative affectivity	.48*	.52*
Detachment	.32*	.30*
Antagonism	.31*	.36*
Disinhibition	.17*	.23*
Psychoticism	.37*	.38*

*Note. PSPS: Perfectionistic Self-Presentation Scale; PID-5-BF: Personality Inventory for DSM-5-Brief Form; BDD-D: Body Dysmorphic Disorder Dimensional Scale; AAI: Appearance Anxiety Inventory; r: Pearson Correlation coefficient. The nominal significance level was corrected according to Bonferroni Correction and set to *p < .003*

Discussion

The present study aims at evaluating the role of perfectionistic self-presentation in predicting BDD over and above the PID-5-BF personality domains. In particular, we operationalized BDD considering both the intense preoccupation with perceived flaws in one's own physical appearance, which appear minimal or completely unobservable to others (assessed by BDD-D) and the cognitive processes and safety seeking behaviors associated to a distorted body image and shame (assessed by AAI).

Our sample was composed by adult community-dwelling female participants since most studies carried out in the general population reported a higher prevalence in women [24,32] and suggested that women and men differ in body areas of concern [33].

Consistent with our hypothesis and in line with previous evidences [13,15,34], in the present study perfectionism was linked to BDD features. Our findings seemed to extend previous work, suggesting the role of the interpersonal expression of perfectionism in BDD. Specifically, our regression analyses results showed that the proneness to actively try to seem perfect and the tendency to conceal and avoid behavioural displays of imperfection significantly predicted BDD-D and AAI scores. In particular, Nondisclosure of Imperfection (i.e., avoiding and evading verbal displays that reveal oneself as imperfect) was associated with BDD-D and Nondisplay of Imperfection was a significant predictor of AAI score.

In the present sample, according to our hypothesis, we found a significant role of DSM-5 dysfunctional personality domains in predicting both BDD-D and AAI scores. In particular, Negative Affectivity, Detachment, Antagonism, and Psychoticism seemed to represent significant predictors of BDD-D score whereas Negative Affectivity, Detachment and Antagonism were associated with AAI score. Consistent with previous studies [21,23,35], in the

TABLE III. *The Perfectionistic Self-Presentation Scale Scales, and the Personality Inventory for DSM-5-Brief Form domains scales as Predictors of the Body Dysmorphic Disorder Dimensional Scale and the Appearance Anxiety Inventory: summary table of hierarchical regression analyses (N = 494).*

	BDD-D		AAI	
	β	*VIF*	β	*VIF*
Age	-.34***	1.001	-.46***	1.0
Change in R^2 value	.12***		.21***	
Age	-.24***	1.109	-.36***	1.099
Negative affectivity	.27***	1.642	.31***	1.371
Detachment	.15**	1.339	.15***	1.218
Antagonism	.11*	1.325	.16***	1.203
Psychoticism	.10*	1.221	-	-
Change in R^2 value	.21***		.21***	
Age	-.21***	1.170	-.28***	1.202
Negative affectivity	.21***	1.642	.23***	1.469
Detachment	.11*	1.644	.12**	1.260
Antagonism	.06	1.358	.08*	1.309
Psychoticism	.11*	1.621	-	-
Perfectionistic self-promotion	.14*	2.059	.17**	2.635
Nondisplay of imperfection	.08	2.090	.13*	2.729
Nondisclosure of imperfection			-	-
Change in R^2 value	.03***		.05***	
Model R^2	.36***		.47***	

*** $p < .001$; ** $p < .005$; * $p < .05$

present sample, BDD was associated with personality psychopathology. In particular, the personality profile of BDD was characterized by the tendency to experience high levels of negative emotions (i.e. Negativity Affectivity, the dysfunctional variant of high Neuroticism) and by the avoidance of socioemotional experiences (i.e. Detachment, the dysfunctional variant of low Extraversion). Moreover, in line with other data [17,18,23], behaviors that put the individual in contrast with other people, including for example expectations of special treatment, as well as callous antipathy towards others (i.e. Antagonism, the dysfunctional variant of low Agreeableness) and unusual behaviors and cognitions (i. e. Psychoticism) represented core components of the dysfunctional personality profile associated with BDD.

Interestingly, the results of the hierarchical regression analyses showed that the PSPS scales produced a modest but significant increase in the prediction of BDD features when controlling for the PID-5-BF domains (i.e., beyond the effect of the PID-5-BF domain scales). In other words, at least in our sample of adult females, these results seemed to suggest the importance of the self-presentation components of perfectionism in BDD features over and above the role of dysfunctional personality traits. Our data could have relevant theoretical and clinical implications. For example, the extent to which individuals are invested in appearing perfect to others and in avoiding displays or disclosures of their perceived imperfections could clarify why they are excessively concerned with perceived physical flaws, experiencing anxiety and shame, and they try to hide or repeatedly check them [25]. Our results, if replicated, suggest that BDD risk is influenced by multiple factors [12] and support the usefulness of considering PSP as a clinical marker for BDD vulnerability. Moreover, our data suggest assessing both dysfunctional personality features and the interpersonal dimensions of PSP in prevention and early intervention programs for BDD.

Our findings should be considered in light of several limitations. First, participants were female adult volunteers; this represents a convenient study group that limits the generalizability of the data. All participants were nonclinical volunteers; this limits the generalizability of our findings to clinical populations. Moreover, we relied only on self-report measures for both dependent variables and independent variables; method effects may

have spuriously biased our results. These limitations stress the need for further replications and extensions before accepting our results.

Conclusions

Notwithstanding these limitations, our results seemed to suggest the importance to consider the perfectionistic self-presentation style as a relevant component of BDD. Therefore, the hope for future studies is to further investigate the role of PSP and personality domains in male participants and in clinical samples. Moreover, it could be interesting to evaluated PSP and personality domains among cosmetic surgery patients or dermatologic patients with BDD.

Conflict of interest statement

The Authors declare no conflict of interest.

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Author contributions

SB: conceptualization, data collection, analysis and interpretation of data, writing -original draft; GR: data collection, analysis and interpretation of data, writing -original draft; VG: data collection, review and editing; AF: revising article critically, supervision.

Ethical consideration

At the beginning of the questionnaire ethical considerations of the study were explained. All participants volunteered to take part in the study, they did not receive incentive for participating. Moreover, they provided a written informed consent. The confidentiality and anonymous nature of the information was guaranteed. The study was conducted in line with the Code of Ethics of the World Medical Association (Declaration of Helsinki).

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Original article

Psycho-health effects in Italian psychiatric nurses suffering from aggressions in their work environments

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SUMMARY

Background

Violence against healthcare workers is a problem of global significance and represents a phenomenon that has been growing rapidly in recent years for the healthcare professions. The aim of the present study was to investigate if there were any associations between anxiety and depression conditions in Italian psychiatric nurses who received a physical or verbal aggression and, additionally if the safety perception levels influenced their anxiety and depression conditions, too.

Methods

All Italian nurses who worked in an Italian psychiatric setting with at least 6 months of work experience were enrolled from March 2017 to December 2019.

Results

As regards anxiety and depression conditions associated to physical and verbal aggressions suffered from Italian psychiatric nurses, data suggested statistically significant associations to physical and verbal aggressions suffered and anxiety and depressions conditions reported. Finally, as regards security level perceptions and anxiety and depression conditions, data reported statistically significant associations between security level perceptions and anxiety and depression levels registered, as: psychiatric nurses who perceived their work environments more secure, less registered an anxiety or depression disorder, respectively.

Discussion

From the data recorded, a safe nursing work environment has gained great attention because it was an essential element that influenced physical, psychological, and social health conditions.

Key words: health, psychiatric nurse, psychology, work environment

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Introduction

Violence against healthcare workers is a problem of global significance and represents a phenomenon that has been growing rapidly in recent years for the healthcare professions. The International Labor Organization, based on criteria developed by the European Union, has defined violence and aggression as "any action, incident or behavior in which staff are abused, threatened, assaulted or harmed in circumstances related to their work, including commuting to and from work" [1]. In recent years there has been an increase in recorded violence worldwide [2]. However, it is really difficult to quantify the number of violent acts, as it is often underestimated [3-6]. Healthcare personnel are found to be a greater risk of violence during working hours [4] and a review of the literature shows the need to further study in order to take prevention and treatment actions [7].

The frequency of violent episodes reaches high rates up to 87% [3]; 80% for verbal violence [8]. A violent act can take on a clinical significance as an expression of a need for care and normative as a source of danger to socially relevant interests, aspects that to date are still little explored in the literature. Many manifestations of work-related aggression and violence are disease or disability-dependent and should be considered unintentional on the part of the aggressor. Exposure to any kind of violence, in the short or long term, can lead negative effects for nurses [9], effects that can occur both in the personal and professional sphere, in addition to negative effects in economic, social and quality of care provided [10], leaving psychological sequelae that can also decrease in terms of safety, the work performance of the operators. A study conducted in Italy [4], among health workers shows that aggressions suffered by health workers is associated with psychological suffering of considerable importance. The worker assumes a more closed and detached attitude towards the patients and this compromises the therapeutic role of the relationship. In recent years, attention to this topic has produced much evidence thanks to studies investigating the incidence of episodes of violence in the workplace reported by nurses. Nurse professionals who are victims of violence may develop psycho-somatic disorders related to the adverse event, up to the burnout syndrome, as shown by another study carried out in Italy [11,12]. The nurses dedicated to the care of patients with psychiatric pathologies present, compared to their colleagues, a higher risk of experiencing violence in the workplace. Another risk factor is represented by the type of hospitalization (voluntary or involuntary), in fact some studies show that involuntary hospitalization was associated with higher rates of hospital violence [13,14]. To date, aggressive acts toward healthcare staff by caregivers, residents or relatives represents a very sensitive and often stigmatized issue [15,16]. The in-depth study on the phenomenon of workplace aggression in the Italian reality is relatively recent, all data related to local studies. Psychomotor agitation requires rapid and safe intervention. Traditional methods for the treatment of agitated patients, such as physical restraint or the forced administration of drugs, have been progressively replaced by non-coercive methods. Non-pharmacological methods of behavioral control, appear to be effective. The de-escalation appears to be the most effective technique only after an accurate knowledge of the patient, his diseases and any prodromal signs and symptoms that may indicate the onset of aggressive behavior. However, it emerges that there is a lack of adequate staff training that can ensure the correct implementation of the intervention and that can make nurses safer in the management of aggressive behavior and violent patients. The study by Mary Lavelle et al. [17], has brought to light that more than half of patients (53%) have implemented aggressive attitudes towards staff and in 60% of cases the de-escalation was successful, even if it is more complicated with subjects with a previous history of aggression, demonstrating a lack of confidence in the effectiveness of these techniques when the risk of violence is higher. The study, goes to confirm the data in the literature, for which many times nurses live violence as "normal" and this "normalization" makes it difficult to identify the severity of the problematic [18]. On the basis of the international literature examined, it is clear that there is a constant danger of aggression against health professionals who operate within psychiatric settings. To date, there are few studies in the literature conducted on professionals in the strictly psychiatric setting; there are no studies conducted on support staff in close contact with the patient; above all, there are very few studies that evaluate the psycho-physical consequences reported by them following episodes of violence suffered, which it is conceivable may affect the quality of professional services in the relationship with the patient in a circle of discomfort that has no end. Hence the need to explore this area still so little discussed.

Aggressions against nurses in psychiatric wards has been recognized as an alarming work-related problem [19]. It was noticed to be principally experienced and under-estimated, despite becoming a worldwide issue [20]. Nurses are the mostly healthcare professions at serious risk to aggression episodes [21]. For example, according to aggressions are dangerous episodes in psychiatric setting even though they have been underestimated [22]. Aggressions by patients against psychiatric nurses are widespread with an arising effect on the nurses [23]. Since nurses spend more hours than other healthcare professionals with patients, nurses suffered from both physical and verbal aggression than other healthcare professionals, respectively [24]. Literature explained what are the main inducing circumstances connected with aggressive episodes which range according to individual patients' environmental characteristics [25]. These predisposed elements include: sex, age, admission condition, marital states and diagnosis. Psychiatric nurses that experienced violent aggressions perceive themselves as unsafe, worried and afraid. In several studies [26], nurses; who experienced violence focused on types of violence, their etiologies and their related risks associated. Campbell [27] suggested that aggressions on psychiatric nurses augmented over 25% within 5-years in England, from 33,620 to 42,692. Serious physical consequences after an aggression may compromise the own healthy condition perceived by nurse and also including musculoskeletal damages and vulnerability to risky treatments [28]. In return, security

enterprises to restrain musculoskeletal damages [29-33], and physical aggression [34-36] have been improved. Additionally, despite this awareness, incidents, damages, and adverse work places endures and completely effective oppose approaches have been indefinable. For example, Nachreiner et al. [37] found no reference that nurses who trained on occupational aggression were more secure than those who did not train in this concern. In 2001, the survey, conducted by the American Nurses association, suggested that less than 20% of nurse felt themselves as "very safe" at their workplaces, 38.1% perceived themselves as scarcely informed on their work environmental potential risks [38]. Individual security strategies may not be successful without a corresponding challenge in organizational habits. On the other hand, several authors reported that safety culture is needed to improve security performance, perception and inspiration [39,40].

In this regard, many nurses experienced high levels of occupational stress in their work places. Nurses who experienced an aggressive episode maybe develop a mental health disorder, which can influence all socioeconomic settings and their workers, in work performance and productivity, commitment with one's job, communication with co-professionals, physical ability and quotidian performance [41]. Moreover, mental disorders, such as depression are linked to worse disability and unproductivity conditions. In this regard, depression influences with a person's capability to perform physical professional tasks about 20% of the time and decreased cognitive function about 35% of the time [42]. Additionally, anxiety is also considered as a goal of stressful work environments and assignments, has consequences on nursing attitude in hospital units [43,44]. Therefore, mental health disorders in nurses consequential to an experienced aggressive episode may have important repercussions on nurses' health and well-being, their quality of life, job gratification, shift, productivity and absenteeism [45].

In light of what was reported in the current literature, the present study aimed to investigate if there were any associations between anxiety and depression conditions in Italian psychiatric nurses who suffered from an aggression, both verbal and physical according to their safety perception levels and then, also anxiety and depression conditions associated.

Methodology

Study design

An observational, cross sectional and multicentric study was carried out from March 2017 to December 2019 by administering an on line questionnaire in all the Italian psychiatric settings.

Participants

All Italian nurses who worked in an Italian psychiatric setting with at least 6 months of work experience were enrolled. The participation to the study was voluntary. In the first part of the questionnaire all ethical characteristics according to Helsinki declaration was explained. No form of return of the data provided has been envisaged.

The questionnaire

The "Violence against frontline National Health System Staff" questionnaire (Violence against frontline NHS staff), modifying to the Italian context [46] was considered as reference model. The first part of the questionnaire included the socio-demographic characteristics of Italian psychiatric nurses, as:

- sex, as: female and male;
- years of work experience, as until 5 years and over 6 years;
- shifts, as nurses were employed only during the morning hours (1 shift), only the morning and the evening hours (2 shifts), during the morning, the evening and the night hours (3 shifts);
- if the interviewer suffered from a verbal or a physical aggression during his/her work;
- when the incidences of aggression occurred more frequently, as during the day or overnight;
- how nurse interviewed perceived his/her safety work environments, as: low secure, mild or high secure.

Then, in the second part of the questionnaire, the anxiety condition was assessed by using the State-Trait Anxiety Inventory scales (S.T.A.Y. Y-1 and Y-2 forms) [47]. The STAY questionnaire was a self-reported questionnaire which assessed two separate dimensions of anxiety, specifically: State (Y-1 form) and Trait (Y-2 form) and each dimension contained 20 items. The State anxiety reflected the psychological and physiological transient reactions directly related to adverse conditions in a specific moment. On the other hand, the Trait anxiety indicated a trait of personality, describing individual differences related to a tendency to present state anxiety. For each dimension, a Likert scale was associated which ranged "not at all" to "very much so", for the trait anxiety factor, and from "almost never" to "almost always", for the state anxiety factor. By summing scores, a total value could range between 20 and 80. Higher score indicated a greater anxiety, both for each of the two dimensions explored. Particularly, values between 20-39 indicated the absence of anxiety; values between 40-50 indicating a slight anxiety disorder; scores ranged 51-60 as moderate anxiety and, finally, values from 61-80 indicated severe anxiety condition.

Finally, in the third part of the questionnaire, the Depression Inventory-II (BDI-II) [48] was administered. The Self-report questionnaire reported depressive severity

condition. This version of the inventory consisted of 21 items, in which four response options are presented on a scale of 0 to 3. The total score ranges from a maximum of 63 to a minimum of zero. For values between 1-10 a mood between highs and lows was considered as normal; for values 11-16 it was reported slight mood disturbances; for values 17-20 a condition of clinical depression within limits was highlighted; for values 21-30 there was a moderate depression; for values 31-40 a severe depression and for values above 40 an extreme depression was indicated [49].

Validity and Reliability

As regards the S.T.A.I. Y-1 and Y-2 forms, literature reported to the construct and current validity of the scale, as internal consistency coefficients ranging from .86 to .95 and, test-retest reliability coefficients varied from .69 to .89 [50]. Additionally, concerning the BDI-II scale, evidence suggested an excellent reliability coefficient of α = .92. Its content validity was ensured because most of its items were equivalent to the DSM V criteria for depression. Its construct validity had also been tested successfully by comparing scores with other measures for depression [51].

Data analysis

Data were collected in an Excel datasheet and subsequently processed thanks to the SPSS, IBM version 20 statistical program.

Sampling characteristics, security perception levels and also the S.T.A.Y. Y-1 and Y-2 forms and to the BDI-II scores were all considered as categorical variables and thus presented as frequencies and percentages. Then, linear regressions were performed in order to better assess how anxiety and depression conditions varied according to sampling nursing characteristics. Then, for all significant associations ($p < 0.05$), frequencies and percentages of associations were performed in order to recognize how significant associations varied.

Ethical considerations

The participation to the study, being free and voluntary, was considered as a statement of agreement, since all ethical characteristics were exposed in the presentation of the survey. All the data reported in the questionnaires were handled independently. No form of return of the data provided has been envisaged.

Results

A total of 207 Italian psychiatric nurses were recruited for this study. 58% were females and 42% were males. 30.90% worked less 5 years in a mental health facilities and 69.10% worked more than 6 years in mental health settings, respectively. 64.30% among participants were employed in 3 shifts and 82.10% of them suffered from a physical or verbal aggression. 30.40% among Italian psychiatric nurses considered their work environments as very secure, 32.40% quite secure and 7.70% little secure, too. 1.90% among nurses recorded severe trait anxiety levels and 2.90% of nurses registered severe state anxiety levels and finally, 9.20% of nurses reported extremely severe depression levels (Tab. I).

As shown in the Table II, the state-trait anxiety was significantly associated to physical or verbal aggressions suffered ($p = 0.001$) and also to security level perceptions ($p < 0.001$).

TABLE I. *Sampling characteristics (n = 207).*

Variables	n (%)
Sex:	
Female	120(58.00%)
Male	87(42.00%)
Years of work experience:	
≥ 5years	64(30.9%)
≤ 6 years	143(69.1%)
Shifts:	
1 Shift	34 (16.4%)
2 Shifts	40 (19.3%)
3 Shifts	133 (64.3%)
Verbal and physical assaults suffered:	
No	37 (17.9%)
Yes	170 (82.1%)
When did the incidences of aggression occur:	183 (88.4%)
During the day	24 (11.6%)
Overnight	
Security level perceived:	
Low	16 (7.7%)
Mild	67 (32.4%)
High	63 (30.4%)
State-Trait Anxiety Inventory-Y1:	
Absence	110 (53.1%)
Slight	59 (28.5%)
Moderate	34 (16.4%)
Severe	4 (1.9%)
State-Trait Anxiety Inventory-Y2:	
Absence	110 (53.1%)
Slight	62 (30.00%)
Moderate	29 (14.00%)
Severe	6 (2.9%)
Beck Depression Inventory-II (BDI-II):	
Normal	129 (62.3%)
Mild disorders	29 (14%)
To the limits	14 (6.8%)
Moderate	9 (4.3%)
Severe	7 (3.4%)
Extremely severe	19 (9.2%)

TABLE II. *Associations between State Anxiety Inventory (Y1) and aggressions' conditions.*

Variables	Non-standardized coefficients		Standardized coefficients	T	P-value	CI 95% per B	
	B	SE	Beta			Minimum	Maximum
Sex	.094	.111	.057	.845	.399	-.125	0.126
Work experience	.148	.118	.084	1.259	.209	-.084	0.115
When did the incidences of aggression occur	-.198	.145	-.109	-1.368	.173	-.484	0.122
Shifts	-.050	.088	-.047	-.567	.571	-.224	-0.023
Verbal and physical assaults suffered	.494	.147	.232	3.350	.001*	.203	-0.067
When did the incidences of aggression occur	.011	.162	.004	.067	.947	-.308	0.093
Security level perceived	-.483	.088	-.353	-5.516	.000*	-.656	0.189

**p < .005 is statistically significant.*

TABLE III. *Associations between Trait Anxiety Inventory (Y2) and aggressions' conditions.*

Variables	Non-standardized coefficients		Standardized coefficients	T	P-value	CI 95% per B	
	B	SE	Beta			Minimum	Maximum
Sex	.168	.119	.101	1.411	.160	-.067	.402
Work experience	.034	.126	.019	.272	.786	-.215	.284
When did the incidences of aggression occur	.067	.156	.036	.430	.668	-.240	.374
Shifts	-.019	.095	-.017	-.197	.844	-.205	.168
Verbal and physical assaults suffered	.325	.158	.151	2.055	.041*	.013	.637
When did the incidences of aggression occur	-.066	.173	-.026	-.378	.706	-.408	.276
Security level perceived	-.368	.094	-.267	-3.912	.000*	-.553	-.182

**p < .005 is statistically significant.*

As shown in the Table III, the state-trait anxiety was significantly associated to physical or verbal aggressions suffered ($p = 0.041$) and also to security level perceptions ($p < 0.001$).

As shown in the Table IV, the depression condition was significantly associated to physical or verbal aggressions suffered ($p < 0.001$) and also to security level perceptions ($p < 0.001$).

As regards anxiety and depression conditions related to physical and verbal aggressions suffered from Italian psychiatric nurses, data suggested more prevalence of anxiety and depression in nurses who suffered an aggression (Tab. V). Finally, as regards security level perceptions and anxiety and depression conditions, data reported that nurses who perceived a less safety working environment reported also higher levels in anxiety and depression conditions, too (Tab. VI).

Discussion

The present study aimed to investigate if there were any associations between anxiety and depression con-

TABLE IV. *Associations between Beck Depression Inventory-II (BDI-II) and aggressions' conditions.*

Variables	Non-standardized coefficients		Standardized coefficients	T	P-value	CI 95% per B	
	B	SE	Beta			Minimum	Maximum
Sex	-.204	.223	-.062	-.919	.359	-.643	.234
Work experience	-.031	.237	-.009	-.131	.896	-.498	.436
When did the incidences of aggression occur	.341	.291	.094	1.172	.243	-.233	.915
Shifts	.080	.177	.037	.452	.651	-.269	.429
Verbal and physical assaults suffered	1.433	.296	.338	4.841	> 0.001*	.849	2.017
When did the incidences of aggression occur	-.096	.325	-.019	-.297	.767	-.737	.544
Security level perceived	-.657	.176	-.242	-3.737	> 0.001*	-1.004	-.310

**p < .005 is statistically significant.*

TABLE V. *How varied anxiety and depression conditions in relation to physical or verbal aggression suffered.*

Psychological condition	Physical or verbal aggression suffered	
	Yes n;%	No n;%
State-Trait Anxiety Inventory-Y1:		
Absence	100 (48.31%)	10 (4.83%)
Slight	47 (22.71%)	12 (5.80%)
Moderate	20 (9.66%)	14 (6.76%)
Severe	3 (1.45%)	1 (.48%)
State-Trait Anxiety Inventory-Y2:		
Absence	97 (46.86%)	13 (6.28%)
Slight	49 (23.67%)	13 (6.28%)
Moderate	19 (9.18%)	10 (4.83%)
Severe	5 (2.41%)	1 (.48%)
Beck Depression Inventory-II (BDI-II):		
Normal	113 (54.59%)	16 (7.73%)
Mild disorders	27 (13.04%)	2 (.97%)
To the limits	12 (5.80%)	2 (.97%)
Moderate	8 (3.86%)	1 (.48%)
Severe	3 (1.45%)	4 (1.93%)
Extremely severe	7 (3.38%)	12 (5.80%)

ditions in Italian psychiatric nurses who suffered from an aggression, both verbal and physical according to their safety perception levels and then, also anxiety and depression conditions associated. Our findings suggested that psychiatric nurses who perceived their work environments more secure, less reported an anxiety or depression disorder, too. In this regard, previous literature was in agreement with the current findings, by reporting that work environmental conditions were one of the most essential predictors of nurse goals, including their mental health and wellbeing conditions [52-55]. For example, a meta-analysis of 17 studies focusing on data from 2,677 hospitals in 22 different countries highlighted that unsatisfactory nursing workplaces were connected to mediocre patient and nurse consequences, as well as burnout [54]. Other studies associated unhealthy nurs-

TABLE VI. *How varied anxiety and depression conditions according to security levels perceptions in the nursing work environments.*

Anxiety & depression/Security	Security levels perceptions		
	Low	Mild	High
State-Trait Anxiety Inventory-Y1:			
Absence	2 (.97%)	53 (25.60%)	55 (26.57%)
Slight	6 (2.90%)	38 (18.36%)	15 (7.25%)
Moderate	7 (3.38%)	23 (11.11%)	4 (1.93%)
Severe	1 (.48%)	3 (1.45%)	0 (0%)
State-Trait Anxiety Inventory-Y2:			
Absence	4 (1.93%)	54 (26.09%)	52 (25.12%)
Slight	7 (3.38%)	39 (18.84%)	16 (7.73%)
Moderate	4 (1.93%)	19 (9.18%)	6 (2.90%)
Severe	1 (.48%)	5 (2.42%)	0 (0%)
Beck Depression Inventory-II (BDI-II):			
Normal	69 (2.90%)	68 (32.85%)	55 (26.57%)
Mild disorders	0 (0%)	19 (9.18%)	10 (4.83%)
To the limits	1 (.48%)	12 (5.80%)	1 (.48%)
Moderate	1 (.48%)	6 (2.90%)	2 (.97%)
Severe	1 (.48%)	4 (1.93%)	2 (.97%)
Extremely severe	7 (3.38%)	8 (3.86%)	4 (1.93%)

ing workplaces to bad mental health, particularly anxiety and insomnia conditions [56,57]. Additionally, literature evidenced a significant association between the nursing workplace and perceived patient security [58]. In fact, heavy workload would decrease the quality of patients' treatment and lead to negative patients' outcomes [59, 60]. To prevent this inconvenient, an effective arrangement by nurses in hospital management would allow them to make judgements linked to patient security, which could improve positive patient outcomes and vice versa. In the same way, previous researches suggested that nurses' participation and promotion are key points relating to patient security [60-62]. Therefore, evidence highlighted that the registered levels of mental health in psychiatric nurses issue from several stressors usually present in work actions, such as: aggression, damages, forceful incidents, as well as home damages and family grieving episodes, were connected with work-related tension and with low mental health in nurses [63]. In this regard the present findings are in agreement with current literature by explaining that work environmental aggression could have significant effects on both the physical and mental health of the victims, as nurses [64]. Therefore, people who experienced depressive and anxious symptomatology that is in agreement with literature focusing on the workplace aggression often evolves in depression and anxiety disturbances [65-68]. Furthermore, exposure to aggression provokes tension, worry by both reducing self-confidence and self-esteem [69] and increasing the risk of anxiety and depression [70], as showing in this study.

Limitations of the study

This study was similar to other designed cross-sectional studies where some limitations needed to be considered. The nature of the design mentioned has allowed for the collection of data, the results of which were based on self-reported information provided by nurses who may have feelings related to prejudice or reminiscences of the aggressions suffered. Furthermore, the questions were freely interpreted by the interviewees. Additionally, the number of interviewees, compared to the total number of psychiatric nurses present on the Italian territory also limited the generalizability of the study results. However, although the study presented some limitations, we believed it produced important empirical data that would be the basis for future research with a larger number of participants.

Conclusions

A safe nursing work environment has gained great attention because it was an essential element that influenced physical, psychological, and social health conditions. In fact, working in unsafe conditions associated to high working load, lack of staff and resources, unprofessional communication, and lack of engagement in decision-making policy in psychiatric settings would negatively affect the nurses' health and safety perception levels, respectively.

In this scenario, management positions should improve researches in supporting nurses' rights to take responsibility for their health and to highlight poor work environment conditions, as well as: disruption in nursing

self-worth, increasing the role ambiguity, which in turn might lead to low-quality of life among nurses, unsafety work places.

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Conflict of interest

The Authors declare no conflict of interest.

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Author contributions

E.V.: Conceptualization, Methodology, Software, Validation, Formal analysis, Data Curation, Writing - Original Draft, Writing - Review & Editing

R.L.: Writing - Original Draft, Writing - Review & Editing

A.C.: Investigation and Resources

L.C.: Review & Editing, Supervision

Ethical consideration

The research was conducted ethically, with all study procedures being performed in accordance with the requirements of the World Medical Association's Declaration of Helsinki.

Written informed consent was obtained from each participant for study participation and data publication.

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Original article

Hysteria: rise and fall of a baffling disease. A review on history of ideas in medicine

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SUMMARY

The article presents a synthesis of the main stages in the construction of the conceptual entity targeted as hysteria.

Several academic papers report historical accounts of hysteria as a long-lasting – although disappeared – disease dating back to Hippocratic evidence. However, both philological research and the history of medicine, together with recent gender studies criticism, suggest that we shall reconsider the very origin of this category, thus questioning the features of its reality conditions across time. An account is given of this revisionism.

Hysteria is here presented as a Renaissance product, virtually dismissed by neurologists in the early 1900 but definitively waned only in 1987 and 1993 by WHO resolution, after having moved from neurology to psychiatry. Its history represents a challenging subject in the theme of objective knowledge in science, drawing our attention to the burden of the political choices taken by an epistemic community within knowledge production, legitimation and validation aiming for a scientific understanding of the world.

An account is given of the multi-layered construction and shifts of hysteria as a disease within the medical models of understanding, and of its progressive deconstruction over time.

Key words: hysteria, philosophy of science, history of medicine, psychiatry, theory of the mind

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Hippocrates: a philological misunderstanding?

Several sources, including academic papers, encyclopedia articles and books, report historical accounts of hysteria as a long-lasting disease dating back to Hippocratic origins:

"The term 'hysteria' has been in use for over 2.000 years and its definition has become broader and more diffuse over time" [1].

"The term hysteria, derived from the Greek word hystera (signifying the uterus), dates back to at least the time of Hippocrates" [2].

"Hippocrates (5th century BC) is the first to use the term hysteria. Indeed he also believes that the cause of this disease lies in the movement of the uterus ('hysteron')" [3].

"There had always been in Western medicine since the time of Hypocrites [sic] a belief in this disease called 'hysteria', which means womb disease" [4].

However, in contrast to the common sense, a number of authors recently questioned this smooth lineage, arguing that the origin of the notion of hysteria proves to be way more recent. A synthesis is here given on this side of the debate.

Although many papers and authors state that the word, together with the first diagnosis, was created by Hippocrates, contemporary philological

researches claim not only that none of the texts collected in the *Corpus Hippocraticum* can be attributed to the father of Medicine (not even the one containing the ritual oath), but also that within the collection of works ascribed to the ancient physician-philosopher there is no reference to a disease called hysteria [5,4]. Philologists also claim that the very word "hysteria" does not belong to the Greek original text.

Indeed, the "female diseases" described in the ancient medical anthology were considered as consequences of a womb suffocation, or suffocation of the uterus, in Greek hystera [ὑστέρα] (lat. utĕrus, sanscr. udáram, meaning "belly"), but such an etiological argumentation did not engage the idea of a proper disease, clearly isolated and identified, nor even a specific disease definition [6,4]. Instead, given that the womb was an exclusively female organ, when a woman expressed an unusual discomfort, unfamiliar among men, a simplistic reification drew the attention to that organ as the source of the disturb. Most of female disorders were believed to be as many consequences of a womb suffocation. De facto, Hippocratic medicine argued that a protracted absence of intercourse could dry up the womb, making it lighter. Conventional wisdom claimed that in this state of lightness the womb could move in many directions, affecting other organs and tissues by contact (liver, heart, diaphragm), along a canal ideally connecting the womb to the mouth [7]. Therefore, any pain, confusion, seizure observed in women and not experienced by men could be explained as a consequence of the *suffocation of the uterus* (histerical suffocation, *uterical*, of the uterus) due to the contact with other organs. The therapy prescribed was to sleep with the husband, so to restore the correct humidity level of the womb and bring the uterus back to its original location. Still, researchers claim that in the *Corpus Hippocraticum* there is no occurrence of the word hysteria [5], nor of a condition or disease called hysteria, nor of a hysterical woman (which would literally mean woman *of the uterus*, uterical woman), and not even a reference to a specific disease of the uterus itself defined that way. A simplistic uterine etiology was an explanation for the most varied discomforts expressed by women. The word histerikon, found in the Greek original text, is precisely an adjective attributed to the suffocation, not to women themselves. More accurately, according to King [5], both the medical category and the word hysteria were added much later to the *Corpus Hippocraticum* by Émile Littré, in the 19th century.

While translating the *Corpus*, Littré introduced his interpretation, being influenced by the modern categories of his own age as by the earlier additions of Galen's translation, therefore spreading in the modern age concepts extraneous to the original Greek version. Moreover Galen himself, in the 2nd century AD, had already mixed the Hippocratic fragments with some considerations of Pliny the Elder, creating the renowned 35th aphorism: "In a woman suffering from hysteria, a sneeze is a good thing".

In brief, those philologists argue that the word identifying a specific disease called hysteria does not belong to Greek antiquity but was, instead, the result of later additions, inaccurate or too free translations, and alterations of the original text.

Hence, the fact that the Greeks explained one or more female sicknesses by means of imaginary womb dislocation does not seem to justify contemporary claims stating that there would be, since the ancient times, a disease called hysteria by Hippocrates, which traveled down to the 20th century. It looks therefore epistemologically incorrect to sustain the Greek origin both of the word hysteria and of the first hysteria diagnosis, as well as the existence of a precise disease dating back to Hippocrates and reaching contemporary times: "here begins the second myth: Hippocrates would be the father of hysteria, result of a wandering uterus because of sexual abstention" [8].

Thereby, the ambiguous reference to a Hippocratic hysteria has at best risen in the modern age, filtered through Galen, filtered again through Littré, to uphold by the authority of the ancients a category created in fact by modern doctors, including Freud, Sydenham and Charcot. The quotation of Greek texts, affected by modern distortion, takes then the shape more of a legitimation demand (a truth-effect device) than of a reliable historical evidence.

"The origin and process of transmission of the error in translation should now be plain. Littré read the Hippocratic corpus in the context of the mid-nineteenth century, in which hysteria was a recognized condition of debated etiology; he expected to find hysteria in the text, duly found it, and drew it out in the headings he wrote for the various sections. Robb translated into English the passages headed by Littré as "Hysteria", and subsequent readers of the Hippocratic corpus have accepted the categories imposed by Littré on his material" [5].

Middle Ages: devil, witches, detentions

"The symptoms of 'hysteria' have also long been ascribed to 'demonic possession and witchcraft'. From the fall of the Roman Empire to the Enlightenment, many illnesses and cures were attributed to sorcery, witchcraft and saints, and little distinction was made between medical, neurological and psychological disorders. Much human suffering was the result of a 'Divine', who inflicted disease as punishment for malefaction or sins, or of witches and warlocks doing the Devil's work. Charlemagne (742-814 AD) sentenced those suspected of

practising witchcraft to death. Such beliefs led to the infamous witch trials, the organized persecution, torture and murder of thousands of people who were psychologically or neurologically ill" [9].

Before considering the criteria for the existence of hysteria during the Middle Ages, we may have to analyze a significant distinction. In fact, removing the Greek reference to hysteria instantly paves the way for (at least) two different readings of the issue.

On the one hand, one could argue that the existence of a phenomenon takes place independently of its definition over time, resuming the Renaissance idea of an absolute nature, whose language and structure, reality and laws one has just to discover [10]. This stable, objective fact would progressively have passed through various names, understandings and definitions across time. Along this line, medical historical approach assumed that both the symptoms and the disease have always existed, while scientific understanding of them has progressively evolved across time. What has been called by hysteria in the ancient Greece (although we saw that's a wrong belief) was then interpreted as witchcraft in the Middle Ages and was again studied scientifically starting from the 17th century taking back its medical name (which, at least by evidence, never existed before). This category remained until 1987, when an even better understanding wiped out the disease, redeploying its symptoms (mainly behaviours) towards other three different disturbs, with three different names. According to this view, antiquity attributed to the movements of the womb the responsibility of the disease, while Middle Ages misread the symptoms as evil signs, ignoring it was all about a natural disease. Sigmund Freud's formulation is probably among the best examples of this kind of interpretation:

> History. – The name 'hysteria' originates from the earliest times of medicine and is a precipitate of the prejudice, overcome only in our own days, which links neuroses with diseases of the female sexual apparatus. In the Middle Ages neuroses played a significant part in the history of civilization, they appeared in epidemics as a result of psychical contagion, and were at the root of what was factual in the history of possession and of witchcraft. Documents from that period prove that their symptomatology has undergone no change up to the present day. A proper assessment and a better understanding of the disease only began with the works of Charcot and of the school of the Salpêtrière inspired by him. Up to that time hysteria had been the bête noire of medicine. The poor hysterics, who in earlier centuries had been burnt or exorcized, were only subjected, in recent, enlightened times, to the curse of ridicule; their states were judged unworthy of clinical observation, as being simulation and exaggerations. […] In the Middle Ages the discovery of anaesthetic and non-bleeding areas (*stigmata Diaboli*) was regarded as evidence of witchcraft [11].

On the other hand, having eliminated the mythic Greek roots, we could henceforth consider hysteria not much as a rediscovery but rather as an invention of the modern age, without reliable historical evidence nor antecedents. Here modern doctors and natural philosophers, while thinking they were recognizing and studying deeper an antique object (a natural, organic, female disease), were actually creating this idea, this cognitive item, for the very first time.

Nevertheless, if the idea of a natural disease called hysteria is a modern creation, as it seems to be, one could still argue that the same behaviours described as symptoms by 19th century physicians have indeed been reported way before the creation of the medical category of hysteria.

A different attempt to define and understand the issue is the one considering those behaviors as a non-verbal language [12]. Here also, a scientific-based approach claims that the same phenomenon observed in modern age was present during the Middle Ages, but with a relevant distinction. The phenomenon representing a continuity across time, in fact, would not be a natural disease, but a series of behaviors, which were accidentally misunderstood as related to a natural disease and which should actually be read as a non-verbal language, a corporal expression of discomfort, conflict, resistance, social suffering and so forth.

Either way, we can indeed follow Freud when he observes that these kinds of deviations, together with many others, have been easily recognized as signs of spirit possession during the Middle Ages and suffered religious-based repression, segregation and killing. On this, also the classical work of Foucault [13] reports that between the Middle Ages and the Renaissance mad people in general (whose madness had not been defined yet as mental illness, still living aside of medicine) were assimilated to others social deviations, just like criminals, beggars, paupers, and therefore destined to the ritual separation from the social order (stultifera navis, colonies, etc.). Among the people interned, one could find as well witches, demon-possessed and "hysterics".

However, it is worth noting that if we give credit to the philological revisionism presented above, at this stage the whole debate around hysteria as a pathology is nothing but an anachronism, since its very first definition had still to come and only appeared in Europe a little later.

1600: brain and nerves

According to Pearce, the first occurrences of the words "hysteria" and "histerical" in French and English date between the 16th and the 19th century:

The word 'hystérique' did not develop in French until 1568; the adjective 'hysterical' appeared in English in 1615 (Crooke): 'Hysterical women, that is, such as are in fits of the mother'. In 1801 the noun 'hysteria' emerged: 'Account of Diseases in an Eastern District of London […] Chronic Diseases […] Hysteria'. And French 'hystérie' appeared in 1812 [9].

Hence, the birth date of the word and concept of hysteria is realistically 1801, while the mention of the word "hysterical" dates back to 1568. It's worth noting that in the 17th century this male epistemic community produced its own standards of truth about hysteria, applying them to women as an objective, unquestioned reality.

Yet, one has to report that it was thanks to this same rising community that the so-called religious bias weakened at the end of the Middle Ages. The English physician Edward Jorden (1569-1632) was in fact the first to consider the women accused of sorcery as victims of a natural disease instead of witches. Jorden intervened several times in their defense in the trials, sustaining that women were affected by "suffocation of the mother", retaking here literally Hippocrates' expression (where "mother" is an archaic word for "uterus"). In his medical treaty *A Brief Discourse of a Disease called the Suffocation of the Mother* of 1603, a curious synthesis of Hippocrates' and Galen's works, mixed with observations of Jorden himself, the physician never stops calling women's condition by "disease", defining it as "Passio Hysterica, Suffocatio, Proefocatio and Stangulatus Uteri". The treaty was written after the trial of Elizabeth Jackson, as Jorden tried, unsuccessfully, to prove the accused was not possessed by the devil but suffering from a natural disease.

Newsworthy, among the external causes of the disease Jorden also suggests a *psychological origin*: the "perturbations of the mind" (notice: mind, not brain). The treaty claims that according to countless historians and physicians there had already been numerous women who "have died upon joy, grief, love, fear, shame and such like perturbations of the mind" [14].

So between the 16th and the 17th centuries the Soffucation of the Mother was resumed from the *Corpus Hippocraticum* and used to try subtract deviant women from the Church tribunals, considering their behaviors not as a mark of the devil but as symptoms of a physical illness, in particular of the uterus, with accidental involvements of the mind. But this genital localization was not meant to last long. As early as in 1618, the French physician Charles Le Pois (1563-1633) suggested for the first time a relation between the Suffocation of the Mother and the nervous system (regarding in particular its convulsive manifestations). The organic explanation gradually removed its attention from the uterus to focus on the nerves, the "blood composition" and the "brain filling".

Sydenham: scientific empiricism and hysterick men

Despite the early suggestions of Edward Jorden, during the 17th century all the behaviors defined as hysterical symptoms continued to be ascribed to a hypotetical, physical, organic disease. Yet, a turning point in the redefinition of this idea was marked by the English physician Thomas Sydenham (1624-1689). Sydenham studied Medicine at Magdalen Hall, Oxford, in 1660 joined the Royal Society of London and in 1676 published the treaty *Observationes Medicae*, which became an absolute academic reference for the next two centuries. In 1668 also the philosopher John Locke entered the Royal Society, taking part in Sydenham's researches as an intern. Based on meticulous observation of phenomena and the minimum possible speculation, the English Hippocrates' approach was destined to impact not only Locke's empiricism, but a broad scientific community.

Among his numerous subjects of interest we find scarlet fever, gout, Saint Vitus' dance (Sydenham's chorea), and also Hysterick symptoms. Those are said to be identical to what he calls by Hypocondriack symptoms, suggesting the latter would be a male manifestation of the same disease. In *The Whole Works of that Excellent Practical Physician, Dr. Thomas Sydenham* (1696) we can find this description:

> very few Women, which Sex is the half of grown People, are quite free from every Assault of this Disease, excepting those who being accustom'd to labour, live hardly; yea, many Men that live sedentary Lives, and are wont to study hard, are afflicted with the same Disease. And tho Hysterick Symptoms were always heretofore supposed to come from a vicious Womb, yet if we compare Hypocondriack Symptoms, which were thought to proceed from Obstructions of the Spleen, or Bowels, or from some other I know not what Obstruction, an Egg is scarce more like an Egg than these Symptoms are one another in all respects [15].

Sydenham was among the first physicians to drive the attention on the male cases reporting hysteric symptoms, and even though his work maintains two different names for the same "disease" (merely distinguished on a gender criteria) his work was ruling out the hypotheses that it would be all about a strictly female condition. Together with that, it also became obviously necessary to disqualify the uterus as the main responsible in the aetiology of the disease. Like Jorden, Sydenham invited to consider the importance of emotion in the genesis of its manifestations. Indeed, this very suggestion opens the door towards a functional, and no more organic, disease definition. But Sydenham also refers to a belief of Galen by which nerves would be empty pipes, where an animating fluid would run (it was called "pneuma psychicon" or "animal spirit"), bringing the sense impressions to the brain:

Sydenham further maintained that hypocondria and hysteria were the same disease; female suffers were simply hysterics, and male suffers were hypocondriacs. His posthumously published *Compleat Method of Curing Almost All Diseases* (1693) noted of "the disease called in women Hysterical; in men the Hypocondriacal Passion" that "when the mind is disturb'd by some grievous accident, the animal spirits run into disorderly motions" [16].

The theory of Spirits (whose confusion could generate the disease) is thus described by Sydenham:

the Confusion of the Spirits, the Cause of this Disease, occasions putrid Humours in the Body, by reason the Function, as well of those Parts which are distress'd by the violent Impulse of the Spirits, as of those which are depriv'd of them, is wholly perverted [15].

The recommended therapy included the collection of eight ounces of blood from the right arm, followed by the administration of herbs purges for three or four days. Then laudanum every night, iron and Artemisia to strengthen the blood, although the best way to fortify the animal spirits was a horse ride every day.

Hence, still far from being identified with a noun (hysteria) and even further from being considered a "mental illness", our disease has thus been gradually created between the 16th and 17th centuries. Via the equivocal reference to Hippocrates and Galen, the Renaissance approach took the phenomenon out of the Christian beliefs to set it in a new, albeit embryonic, scientific debate.

Early 1800s: madness as a disease

Despite the 17th century discourse about hysteric symptoms, passio hysterica, suffocation of the Mother, etc., the first time hysteria was defined as nosological phenomenon in medicine was in the 19th century. Coincidentally, this was also the time when physicians started to look closely at madness, which was on its way to be interpreted as a kind of illness. From the union of an incipient neurological approach to behavioral dysfunctions and this new medical attention towards madness, numerous theories and definitions arose regarding nervous crises. Among them, the definition of hysteria as an independent disease was about to come.

In 1793 Philippe Pinel for the first time separated the "madmen" from the other socially deviant subjects in the asylum of Bicêtre, France. In his 1801 work *Traité médico-philosophique sur l'aliénation mentale ou la manie*, he claimed that "the insane, far from being culprits who need punishment, are patients whose sad state deserves all the consideration due to suffering humanity, and whose lapsed reason one must seek to restore by the simplest means" [17].

The idea that lost reason could be restored, instead of lost once and for all, was an absolute innovation which inaugurated the use of medical knowledge and treatment in respect of "madmen". Moreover, Pinel argued one could not understand the very idea of alienation without confronting the cause which most frequently laid beneath it: violent passions or exasperated by contradictions [17]. Pinel intended to cure his "serious fools" by interviews, "moral therapies", ergotherapy, leeches, opium, purges, isolation and contention. However, although his revolutionary ideas about a restorable reason via a moral treatment, later sistematised by psychoanalysis, with regard to the behaviors earlier interpreted as hysterical symptoms, he simply collected them under the category of "genital neuroses", yet considering their psychological origins [18].

A dispute within the French school

A little later, between 1872 and 1878 it was the French neurologist Jean-Martin Charcot (1825-1893) who actually formulated, defined and described an independent disease called "hysteria" for the first time in medicine. Charcot took service after Pinel at the hospital of Salpêtrière, in Paris, where he was assigned to the convulsions division as chief of internal medicine. Here, he separated epileptics and hysterics [19], described the symptomatology of hysteria and distinguished its permanent and temporary expressions. He also used photography to document hysterical crises, creating a vast visual catalog of the phenomenon encouraging his patients to pose theatrically in front of the camera [20]. Charcot was primarily treating encephalitis, Parkinson, sclerosis, hemiplegia and also was the first to adopt hypnosis as healing method to treat hysteria. In 1882 he published the essay *Sur les divers états nerveux déterminés par l'hypnotisation chez les hystériques* [21], he confirmed the belonging of hysteria to neuropathology and in the same year transformed the Salpêtrière in a proper neuropathology institute, where he created and directed a professorship of Neurology. He believed hysteria was a proper disease caused by a hereditary degeneration of the nervous system, but had no clue about its material origins. In his own words, from 1892: "We do not know anything about its nature, nor about any lesions producing it; we know it only through its manifestations and are therefore only able to characterize it by its symptoms" [22]. As stated by Mark Micale, the main issue with this illness has always been its "missing lesion", an absence that gave way to the most various theoretical speculations:

Theorization on the subject was dominated by Charcot, the celebrated Parisian neurologist who in the late 1870s and 1880s formed a coterie of young doctors and medical stu-

dents around him at the Salpêtrière hospital to investigate in enormous and systematic detail what he christened "the Great Neurosis". […] Nonetheless, ninetheenth-century theories of hysteria remained wholly speculative. […] Ninetheenth-century doctors hypothesized about whether hysteria derived from an anatomical lesion, a molecular change, a nutritional deficiency, or an electrophysiological irregularity of the brain, but inconclusively [22].

Yet, also within the epistemic community which formulated the very category of hysteria as a disease there was no full consent regarding its nature and status. Nor even about it being an illness.

In those same years, Charcot's most brilliant colleague and disciple Joseph Jule François Félix Babinski (1857-1932) was radically denying the fact of hysteria being a disease *tout court*. He claimed that the hysterical manifestations, until then taken as symptoms, were nothing more than artificial creations induced by suggestion. Hyppolite Bernheim (1840-1919), Professor of Medicine at Nancy University, shared his opinion and provided demonstration that the phenomena observed during the hypnotic treatment of Charcot would only happen when the patients knew they had to happen, supporting thus the argument of suggestion [23]. In recent years, Thomas Szasz placed some emphasis on the inner conflicts regarding the methodology of analysis within the French School:

during Charcot's lifetime and at the height of his fame, it was suggested, particularly by Bernheim, that the phenomena of hysteria were due to suggestion. It was also intimated that Charcot's demonstrations of hysteria were faked, a charge that has since been fully substantiated. Clearly, Charcot's cheating, or his willingness to be duped […] is a delicate subject. It was called "the slight failing of Charcot" by Pierre Marie. Guillain, more interested in the neurological than in the psychiatric contributions of his hero, minimized Charcot's involvement in and responsibility for faking experiments and demonstrations on hypnotism and hysteria. But he was forced to concede that "Charcot obviously made a mistake in not checking his experiments. […] Charcot personally never hypnotized a single patient, never checked his experiments and, as a result, was not aware of their inadequacies or of the reasons of their eventual errors [12].

Furthermore, as early as 1904 we have the first statement about the decline of hysteria as a nosological category. The German physician Armin Steyerthal "predicted in a pamphlet entitled *What Is Hysteria?* that 'within a few years the concept of hysteria will belong to history […] There is no such disease and there never has been'" [22]. In a way, he was not far from the truth, although the category stayed until 1987 in the DSM of psychiatry and has been yet diagnosed worldwide in the late 1980s [24].

Still, although during the second half of the 19th century doctors considered the newborn hysteria as the most common nervous disease among women, the diagnosis was almost gone a few years later: "the decline of hysteria as a workaday diagnosis within European and North American medicine occurred rapidly after the turn of the century and was effectively complete by World War I" [22].

In May 1908, eight years after the death of Charcot, Babinski proposed to the members of the Paris Neurological Society to discard the term hysteria altogether. In his *Définition de l'hystérie*, he proposed to start to use the term *pithiatism* instead, meaning a curable form of persuasion:

Dominated by Babinski, one member of the group after another took the floor and publicly denied that these classes of symptoms could be hysterogenic. […] Many members confessed openly to what they now regarded as the misdiagnosis of many cases from their earlier medical practice. The meeting on 14 May dealt with the eight topic on the questionnaire: "Faut-il conserver le mot Hystérie?" Everyone present agreed that hysteria had previously been defined much too elastically. […] Exactly fifteen years after Charcot's death, the most prestigious professional organization in French neurology dismantled the Salpêtrian model of hysteria, symptom by symptom, in two days, just as Charcot had constructed it with such care over two decades [22].

Lastly, Micale's historical survey suggests to take in consideration the gradual absorption, in the late 19th century, of the supposed "hysterical symptoms" by other medical categories. Changes in diagnostic technique and the rise of microscopical observation led to different interpretation of the behaviors and cases earlier considered hysterical. Babinski's toe reflex made it possible to distinguish cerebrovascular paralyses (organic ones) in the vast ocean of hysteria diagnosis. The 1905 observation of Spirochaeta pallida made it possible to identify syphilis, slowly taking away even more cases from hysteria's basket. The third great category receiving hysteria's patients was then epilepsy.

Nonetheless, the idea of hysteria was not yet about to die. From Paris to Vienna, hysteria was just about to start a new life, jumping from organic materialism towards metaphysics, without abandoning the field of medicine.

Janet and Briquet: a malady of the mind

While Pierre Briquet was still claiming that hysteria would be a neurosis of the brain (1859), providing the basis for the modern-day somatization disorder, inside the Pitié-Salpêtrière another view would rise in Charcot's circle: that of the French physician, philosopher, psychologist and psychotherapist Pierre Janet (1859-1947). Precisely with the medical thesis *L'état mental des hystériques*, of 1893, Janet started to define a new field of research, following some more ancient intuitions of Sydenham and Jorden: the mind instead of the body,

and more particularly memory. In his *The major symptoms of hysteria: fifteen lectures given in the Medical School of Harvard University* (1907), Janet broadly defined hysteria as «a malady of the personal synthesis», and more precisely as follows:

> hysteria is a form of mental depression characterized by the retraction of the field of personal consciousness and a tendency to the dissociation and emancipation of the systems of ideas and functions that constitute personality [25].

Here a radically new interpretation of the phenomenon was given: hysteria would be a disease of personality, of the mind in relation with the others and ourselves. Out of a sudden, in the same century when Charcot was medically describing and institutionalizing hysteria as a corporal disease of the nervous system, while Babinski was totally denying it being an illness, Janet claimed hysteria would not really be a disease of the body (of uterus, brain nor nervous system), but a malady of the mind, of the soul, of personality. Janet was the first to claim the psychogenesis of hysteria, and his proposal included the definition of a new category: *psychastenia*, grouping symptoms as phobias, obsessions, compulsions, anxiety, thus largely embracing many behaviors attributed to hysteria.

Some of these 19th century approaches will be resumed in the work of Sigmund Freud.

Freud: neuroses, repression, inner conflicts

In 1909 Babinski published his medical essay *Démembrement de l'hystérie traditionnelle: Pithiatisme* [26]. In 1903, Janet had published *Obsessions and Psychastenia*, and developed a model of the mind and personality in social terms which would become the basis for all the psychological theories from there onwards. Briquet's 1859 *Traité clinique et thérapeutique de l'hystérie* [27] set the basis for the controversial category of somatization. But while hysteria was just about to be left behind by its French fathers, this very diagnosis gained new life within German medicine and psychiatry.

Although widely considered absolute pioneering, the theories of the Austrian neurologist Sigmund Freud (1856-1939), were largely based on the works of his colleagues and mentors, namely Bernheim, Charcot, Janet, Breuer (1842-1925) and Bleuler (1857-1939). Freud actually represents the greatest filter and funnel of the tradition before him. Still supporting Charcot's nosographical classification of hysteria as a morbid neurological phenomenon, Freud inaugurated a systematic analysis of the thoughts of hysterics: psychoanalysis. Adopting Janet's intuition as for the psychogenesis of hysterical behaviors, Freud started to investigate the mental language of his patients, the symbols of their dreams, the logic of free association of thoughts and images and their erotic impulses by mean of dialogue as therapy. Ridiculed by many contemporaries, Freud developed a theory of the unconscious to propose a psychological etiology of hysteria.

Those ideas were not new, being rather developments and applications of Janet's work. Freud himself declares it in *A Note on the Unconscious*: "the theory of hysterical phenomena first put forward by P. Janet and elaborated by Breuer and myself" [11]. Also the concept of unconscious was actually based on Janet's first idea of a "subconscious", a term he created together with the word "dissociation". Restoring some Janet's intuitions, already present in Pinel, Freud also transported the medical concept of *trauma* (wound, injury, lesion) from the physical, organic framework to the psychological dimension [28], converting trauma into a metaphor and looking for the psychical events, the unsolved contradictions, the repressions and conflicts at its origin. Psychoanalytical approach targeted the social reintegration/reeducation of the individual by means of a dialogical treatment, namely to reveal and express the inner conflicts that caused psychological disorders:

> In the course of our investigation into the aetiology of hysterical symptoms, we also came upon a therapeutic method which seemed to us of a practical importance. For we found, to our great surprise at first, that *each individual hysterical symptom immediately and permanently disappeared when we had succeeded in bringing clearly to light the memory of the event by which it was provoked and in arousing its accompanying affect, and when the patient had described that event in the greatest possible detail and had put the affect into words* [11].

Albeit the suggestions that emotion could have a relevant role in the triggering of hysterical crises were already coming from Jorden, Sydenham, Janet and Pinel, it is with Freud that for the first time a doctor, a physician tried to systematically access the mental contents of a patient, under the belief that psychic torment was generated by the tension and contradiction between individual impulses, desires, feelings and the rules imposed by social life and structure [11].

From the womb to the devil's influence, from blood fluids and suggestion to the brain and the nervous system, on the verge of the 20th century the nomadic origin of hysteria was moving towards the abstract location of the mind, of the psyche, of human consciousness and personality without even changing its name.

Sigmund Freud united therefore the psychological approach of Janet (a theory of the mind, the role of memory), the hypnotic techniques of Breuer (the induced access to the unconscious, the alteration of the state on consciousness, the therapeutic talk) as well as Charcot's case studies and nosographical definitions (the

medical corporeity, the catalogue of behaviors read as nervous pathology signs). He also maintained untouched the idea of the inheritance of the disease, presented by Charcot:

> Hysteria must be regarded as a status, a nervous diathesis, which produces outbreaks from time to time. The aetiology of the status hystericus is to be looked for entirely in heredity: hysterics are always hereditarily disposed to disturbances of nervous activity, and epileptics, psychical patients, tabetics, etc., are found among their relatives. Direct hereditary transmission of hysteria, too, is observed, and is the basis, for instance, of the appearance of hysteria in boys (from their mother). Compared with the factor of heredity all other factors take a second place and play the part of incidental causes, the importance of which is as a rule overrated in practice [11].

He also maintained a gender discrimination: yet denying that neuroses had anything to with the womb, Freud claimed that male nervous system had a natural disposition towards neurasthenia as female one had towards hysteria [11], keeping the attribution of the category focused on women. When dealing with men, he would specify they were cases of "male hysteria", thus confirming a gender bias. The distinction so far reified in the uterus was now expressed by the "dispositions" of the nervous system.

In the same century, the German neuropsychiatrist Ernst Kretschmer (1888-1964), professor at the Tubinga Psychiatric Clinic, argued that "hysteria" would be a way to act (or better react) at the disposal of any human being. He claimed that it was determined by biological preformed mechanisms and studies the correlations between individual constitution, psychic personality and predisposition to mental illnesses [29]. Braun, instead, proposed that this dysfunctional state was caused by *epitimia*, a semiconscious elaboration of emotive events, having registered similar elementary reactions in animal behaviors when exposed to harmful stimulation._

Thomas Szasz, DSM, antipsychiatry

The last hysteria theory we will mention, before the category definitely disappeared from medicine, was proposed in the 20th century within psychiatry. In 1952, the American Psychiatric Association published the DSM - *Diagnostic and Statistical Manual of Mental Disorders - The standard classification of mental disorders used by mental health professionals in the U.S.* [30], then spread to other countries starting from 1980, with the third edition.

In the late 19th century hysteria was embracing conditions nowadays included under the DSM dissociative disorders as: somatization disorder, conversion disorder, borderline personality disorder and post-traumatic stress disorder.

Left out of neurology due to the missing lesion evidence, hysteria was adopted as a nosographical category by the newborn medical branch of psychiatry. Yet, the first edition of the DSM did not mention hysteria in the catalog of mental disorders:

> in the second edition of DSM, which had a more psychoanalytical orientation, hysteria came back as neuroses and hysterical neuroses, being divided into conversive and dissociative types. Contrary to the DSM-I, this second edition admitted hysteria also as personality disorder, the so called hysterical personality (nowadays histrionic personality disorder) [31].

Curiously, it was long after the phenomenon had already vanished in European medicine that U.S. psychiatry went back to recover it, furthermore placing it in a tool which would quickly become an international reference for the diagnosis of mental disorders by physicians on a global scale.

Nonetheless, at the same time, throughout the 20th century the very concept of mental illness in medicine was undergoing a profound criticism from many sides. In particular, in 1961 the Hungarian-American psychiatrist and psychoanalyst Thomas Szasz published *vg*, a work containing a new interpretation of hysteria and a strong epistemologic critique to the concept of "mental illness". On the one hand, Szasz read hysterical behaviors as a non-verbal language, on the other hand, he claimed there was no such a thing as mental illness a physician could deal with:

> The claim that "mental illnesses are diagnosable disorders of the brain" is not based on scientific research; it is a lie, an error, or a naive revival of the somatic premise of the long-discredited humoral theory of disease. My claim that mental illnesses are fictitious illnesses is also not based on scientific research; it rests on the materialist-scientific definition of illness as a pathological alteration of cells, tissues, and organs. If we accept this scientific definition of disease, then it follows that mental illness is a metaphor, and that asserting that view is stating an analytic truth, not subject to empirical falsification [12].

Together with this epistemologic readjustment between medicine and psychiatry, brain and mind, came the invitation to consider the setting of a twilight zone for the action of psychiatry within the patient's life:

> Psychiatry, I submit, is very much more intimately tied to problems of ethics than is medicine. I use the word "psychiatry" here to refer to that contemporary discipline which is concerned with problems in living (and not with diseases of the brain, which are problems for neurology) [12].

Szasz argued that mental illness is a metaphor for human problems in living. Mental illnesses are not "illnesses" in the sense that physical illnesses are; and "except for a few objectively identifiable brain diseases, such

as Alzheimer's disease, there are neither biological or chemical tests nor biopsy or necropsy findings for verifying or falsifying DSM diagnoses" [32]. With regards to hysteria, Szasz proposed to look at the "hysterical behaviors" from the point of view of a social semiotic, as nondiscoursive language. Crisis, local paralysis, loss of sensitivity, outbreaks would be nothing more than signals, icons, symbols representing a ritual form of expression of conflicts, sufferings, inner contradictions, traumatic experiences stated in a body language:

> To exhibit, by means of bodily signs – say, by paralyses or convulsions – the idea and message that one is sick is at once more impressive and more informative than simply saying: "I am sick". Body signs portray – they literally present and represent – in exactly what way the sufferer considers himself sick. In the symbolism of his symptom, the patient could be said to present his own complaint and – albeit in a highly condensed form – even his autobiography [12].

Considering nondiscoursive languages as oriented to the expression of emotions more than to the transmission of an information, Szasz invited the medical and state authority to reconsider the very core of therapeutic relation and illness attribution:

> Evidently, in the modern world many people prefer to believe in various kinds of mental illnesses, such as hysteria, hypochondriasis, and schizophrenia – rather than admit that those so diagnosed resemble plaintiffs in courts more than they do patients in clinics, and are engaged in making various communications of an unpleasant sort, as might be expected of plaintiffs [12].

Thus, according to Szasz, one should try to interpret this nondiscoursive language, more than diagnose pathologies based on (not understood yet) human behaviors:

> All the evidence is the other way and supports the view that what people now call mental illnesses are for the most part communications expressing unacceptable ideas, often framed, moreover, in an unusual idiom [12].

What Szasz did with hysteria was part of a larger movement, also called antipsychiatry, inviting society to question psychiatric authority in attributing diagnosis and to consider behavioral disorders as signs of existencial problems instead of medical pathologies. Among the most evident cases of psychiatric misunderstanding of human behaviors we'll notice the DSM nosographical category for homosexuality, scientifically considered a mental illness for decades.

Similarly to Szasz, Scottish psychiatrist Ronald David Laing (1927-1989) and Aaron Esterson (1923-1999) reinterpreted the nosographical category of schizophrenia [33], suggesting the etiology of their patients' disturbs was actually the repression and rejection of their identity within their families. International public debate was growing while Italian communitarian psychiatry, led by the psychiatrist Franco Basaglia, was questioning the purpose of asylums and finally brought to their closure. On the wave of this wide revision, hysteria vanished once for all:

> Under the pressure of public opinion, which considered the word "hysteria" as stigmatising, the équipe who drafted the DSM-III accomodated hysteria in various compartments, abolishing it from psychiatric nomenclature. […] In 1993, with the 10th edition of the International Statistical Classification of Diseases and Related Health Problems (CID-10) by the WHO, and in 1994, with the 4th edition of DSM-IV it was established the end of the category of hysteria, together with its redesignation under new diagnostic classifications [31].

A surprisingly resilient concept

By way of conclusion, we may observe again that contemporary editions of DSM and ICD, together with the broad medical community, desisted from using the word "hysteria" any longer, erasing it from the book and distributing its former symptoms into the three categories of somatization (a derivation from Briquet's syndrome), dissociative disorder and conversion disorder, mainly caused by "long term stress". All sorts of reasons were paving the way towards the end of this category: a remarkably embarrassing gender bias, the unsolved problem of the missing lesion, striking philological misunderstandings, core conflicts between its creators, etc. Nonetheless, while the scientific community killed its rejected creature (or just changed its name?), popular and psychoanalytical tradition still maintains it there. A search of the entry "hysteria" in various dictionaries shows that this word and concept is still alive and well, offering definitions as the following:

Hysteria. Noun.

1. a psychoneurosis marked by emotional excitability and disturbances of the psychogenic, sensory, vasomotor, and visceral functions;
2. behavior exhibiting overwhelming or unmanageable fear or emotional excess [34].

Running into this definition in 2022nd one may ask: will society ever get rid of such an idea? And if not, as it seems to be the case, what are we to make of this most resilient ghost, neglected child of the Renaissance scientific method?

> "And so it is: the burning reality […] is nothing but an imperfect reverberation of former discussions. Hitler, dreadful with his public armies and secret spies, is a pleonasm of Carlyle (1795-1881) and even of J.G. Fichte (1762-1814); Lenin, a transcription of Karl Marx. That is why the true intellectual eschews contemporary debates; reality is always anachronous" [35].

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