Validation and psychometric properties of the Italian version of the Power Behavioural System Scale

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ABSTRACT

The power behavioural system is a neurobehavioral system that motivates a person to acquire and control resources that are important for survival and reproductive success. When activated, its function is to protect or restore the sense of power, influence, or dominance. Repeated experiences of failure in achieving this goal may result in hyperactivation or deactivation of power-oriented behaviours (analogous to the secondary strategies observed with respect to the attachment behavioural system). Gaining a reliable and valid measure of hyperactivation and deactivation of the power system can be important for understanding an individual's responses to different social contexts and, in clinical settings, can help the therapist identify the client's difficulties that may undermine the therapeutic process. In the present study, we developed the Italian version of the Power Behavioural System Scale (PBSS), a self-report measure developed by Shaver *et al*. (2011) to assess individual differences in hyperactivation and deactivation of the power system. Results indicated an adequate fit to the expected two-factor model, and the measure proved to be reliable and had good convergent and structural validity, allowing the quantification of individual differences in power system hyperactivation and deactivation.

Key words: power system; sense of power; behavioural systems; emotional problems; threat; PBSS; Italian version; validation.

Introduction

The concept of power comprises three different aspects: i) the concrete or potential ability of a person, the power holder, to influence another person; ii) the power holder having a resource that is valued by the other person, who is thus dependent on the power holder; and, finally, iii) recognition on the part of other people that the power holder has the power (Guinote, 2017).

Having power affects how a person perceives his or her capacities and self-worth. It boosts confidence in one's own abilities and ideas, facilitating timely decision making and attainment of one's goals (Guinote, 2017). High levels of power are related to experiencing positive emotions, whereas low levels of power are associated with experiencing negative emotions (Cho & Keltner, 2020; Keltner *et al*., 2003). Moreover, people with high levels of power can focus their attention on social situations with a high potential of reward, viewing other individuals as means of achieving their own goals. In contrast, people with low levels of power focus their attention on potential dangers, perceiving themselves as means of achie-

ving other individuals' goals (Cho & Keltner, 2020; Keltner *et al*., 2003). Power affects not only an individual's feelings but also his or her interpersonal relationships with workplace colleagues, neighbours, friends, family members, and romantic partners (Anderson *et al*., 2012; Keltner *et al*., 2003).

Actual and perceived power may also be a central element in therapeutic relationships (Proctor, 2008). Important relationship variables associated with therapeutic effectiveness include the therapeutic alliance, goal agreement, and empathy (Norcross, 2002), and each of these variables can be affected by power dynamics in the therapeutic relationship. According to Proctor (2008), a therapeutic relationship characterized by empathy, goal agreement, and a favourable alliance implies a relationship in which the therapist does not hold power over the client but instead boosts the client's power-from-within. This requires a mutually respectful relationship. In contrast, a dysfunctional client-therapist relationship may involve a therapist adopting a position of power over the client, weakening the client's sense of power-from-within (Okamoto *et al*., 2019). Dysfunctional inhibition of a client's sense of power can have detrimental effects on the therapeutic process (Salzano & Conson, 2020).

According to Shaver *et al*. (2011), individual differences in a person's sense of power reflect underlying variations in the functioning of the power behavioural system. This system is conceived within adult attachment theory (Mikulincer & Shaver, 2016) as an innate neurobehavioral system (similar to the attachment and exploration systems postulated by Bowlby, 1982, the originator of attachment theory) that motivates a person to acquire and control psychological or physical resources that are important for survival and reproductive success. The main aim of the power system is to remove threats and obstacles undermining an individual's sense of power. Hence, the power system is activated mainly when resources are limited, and the individual must compete to control them, or when an event or a social interaction is perceived as a threat to the person's power (Shaver *et al*., 2011).

The primary strategy of the power system is to activate behavioural tactics targeted at protecting or restoring the sense of power, influence, or dominance (Mikulincer & Shaver, 2012). These behaviours include asserting one's authority, rights, or competence; communicating confidence in one's values and opinions; exerting control over one's resources or discouraging others from contending for these resources; verbally or physically attacking (or threatening to attack) others until power is reinstated. According to Mikulincer and Shaver (2012), repeated experiences of failure in achieving the main goal of the power system motivates the replacement of the primary strategy with secondary strategies: reflecting hyperactivation or deactivation of power-oriented behaviours (analogous to the secondary strategies observed with respect to the attachment behavioural system; Cassidy & Kobak, 1988).

Hyperactivated power strategies are characterized by energetic efforts to reinstate the sense of power, together with an intense fear of losing power. This strategy can result in aggressive and hostile behaviour toward anyone who is perceived as a possible rival. A tendency to attack can occur when even minimal or ambiguous signals of threat are perceived (Mikulincer & Shaver, 2012).

Deactivation strategies involve inhibition of power-oriented behaviour and reluctance to engage in assertive, forceful, or aggressive acts to defend against threats to one's sense of power. This kind of deactivation can involve submissiveness, self-abasement, passivity, and discomfort with resource-holding behaviour, even when one's sense of power is explicitly assaulted or damaged. Deactivation also involves avoiding situations that call for assertion of one's rights, values, or opinions, such as competitions, arguments, and actual fights (Mikulincer & Shaver, 2012).

The power behavioural system scale

Shaver *et al*. (2011) developed a self-report measure to assess individual differences in hyperactivation and deactivation of the power system, the Power Behavioural System Scale (PBSS). The PBSS instructs individuals to think about situations in which they have a disagreement or conflict with another person or group, and to rate the extent to which each item is, or is not, self-descriptive using a 7-point response scale. Shaver *et al*. (2011) validated the PBSS in a sample of 362 (211 females, 151 males) Israeli undergraduates, demonstrating that its items coherently assess the two secondary strategies of the power system (*i.e*., hyperactivation and deactivation). The PBSS contains 14 hyperactivation items tapping strong desire for power and control over resources and other people, frequent attacks of anger and aggression, and anxiety and worry about being defeated in competitions or disputes. The scale also includes 14 deactivation items focusing on attempts to avoid asserting power and authority as well as feelings of uneasiness about competition and disputes. The 28-item two-factor model of the PBSS exhibited good internal consistency reliability, as well as adequate stability over a 4-month test-retest interval.

Current study and aims

In the present study, we adapted the PBSS to Italian and evaluated the psychometric properties on a sample of 331 young adults (age range: 18-30 years). In particular, we verified its factorial structure, the expected two-factor structure, implying the hyperactivation and deactivation factors identified by Shaver and colleagues (2011), and verified the reliability and validity of the scores.

In the original study on the PBSS (Shaver *et al*., 2011), the authors aimed at demonstrating that the PBSS measured a specific construct unique to the power system that was not measured by the available scales assessing other constructs, in particular insecure attachment and personality traits. Consistently, here, we looked at possible correlations between the PBSS and measures of attachment insecurity as well as other personality traits.

Specifically, the current study aimed to test: the structural validity of the 28-item two-factor model of the Italian version of the PBSS through Confirmatory Factorial Analysis (CFA); the internal consistency reliability of the hyperactivation and deactivation subscales; the new subscales' convergent validity, administering other measures of aggression and lack of assertiveness; and their concurrent validity, examining the associations between the PBSS and other constructs, such as insecurity in romantic attachment (anxious and avoidant attachment) in adulthood, and personality traits, such as agreeableness, conscientiousness, emotional stability, extroversion, and openness to experience (Shaver *et al*., 2011). Finally, we assessed possible sex differences in the activation of the secondary strategies of the power system. Although this issue was not addressed in the original Shaver *et al*.'s (2011) study, we decided to investigate a debated issue, since one main available meta-analysis suggested the existence of nuanced differences between the sexes in activation of the power system (Walters *et al*., 1998).

Materials and Methods

Participants

Participants were 331 students (225 females, 106 males) recruited from different universities in the Campania region of Italy. Participants were volunteers who responded to ads posted on social networks and on the bulletin boards at universities. To be included in the study, participants had to meet two inclusion criteria, as self-reported by each of them in the personal data form: i) lack of neurological or neurodevelopmental conditions and ii) lack of any history of psychiatric difficulties. All participants spoke Italian as their native language; the sample had a mean age of 23.04 years (SD=2.69; range: 18-30).

The study protocol was approved by the local Ethics Committee of the Department of Psychology, University of Campania Luigi Vanvitelli, and was conducted in accordance with the ethical standards of the Helsinki declaration. Written informed consent was obtained from all participants before starting the study.

Measures

Power Behavioural System Scale

The PBSS (Shaver *et al*., 2011) is a 28-item self-report measure of a person's global orientation to power and assertion. The scale assesses the two main secondary power strategies: deactivation (De) and hyperactivation (Hy). The 14 deactivation items (*i.e*., the odd-numbered items: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27) assess the tendency to avoid asserting power and authority and the tendency to avert competitions and disputes. The 14 hyperactivation items (*i.e*., the even-numbered items: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28) assess the enhanced need for a sense of power and control over resources and other people as well as intense worries about losing power. Items are rated on a 7-point scale, ranging from 'strongly disagree' to 'strongly agree,' with higher scores indicating greater deactivation and hyperactivation of the power system. Items 21 (De) and 26 (Hy) are reverse scored. Cronbach αs were .85 for the hyperactivation items and .90 for deactivation items.

The original English-language 28-item PBSS (Shaver *et al*., 2011) was translated into Italian by two independent Italian researchers who adapted the items to the Italian cultural context, adjusting words and idioms accordingly. The two researchers' independent translations were then reviewed to resolve discrepancies, resulting in a single agreed-upon Italian version of the PBSS. This translation was then back translated into English by a bilingual researcher blinded to the original English version. The two versions (English and Italian) were carefully compared, and the Italian version was reviewed by an expert committee that corrected words and phrases that were unclear. In order to verify the clarity of the items, the resulting Italian version was tested on a subsample of 15 students (10 females, 5 males; M age = 24.0 years; *SD*=3.1; range age = 18-28 years), subsequently included in the total sample. This process resulted in a 28-item Italian version of the scale (*Supplementary Table S1*).

Aggression Questionnaire

The Aggression Questionnaire (AQ; Buss & Perry, 1992) is a 29-item self-report measure of the tendency to aggress in four domains (*i.e*., physical aggression, verbal aggression, anger, and hostility). Items are rated on a 5-point scale, ranging from 'extremely uncharacteristic of me' to 'extremely characteristic of me,' with higher scores indicating greater aggressiveness. Regarding the internal consistency of the four factors and the total score, the Cronbach alphas were as follows: Physical Aggression = 0.85; Verbal Aggression = 0.72; Anger = 0.83; Hostility = 0.77; Total score = 0.89.

Scale for Interpersonal Behaviour

The short version of the Scale for Interpersonal Behaviour (SIB; Arrindell *et al*., 1984, 2002, 2004) is a 25-item self-report multidimensional measure of difficulty and distress in assertiveness across four domains (negative assertion, personal limitations, initiating assertiveness, and positive assertion). Each domain is evaluated in two ways: the probability of response (performance) and the degree of discomfort (distress) associated with attempts at self-assertion. Items are rated on two separate 5-point scales, one for distress (from 'not at all' to 'extremely') and the other for the probability of engaging in a specific behaviour (from 'I never do' to 'I always do'). Here, we used a general assertiveness score, for both distress and performance. Cronbach αs were 0.90 for the distress score and .85 for the performance score.

Experiences in Close Relationships

The Experiences in Close Relationships (ECR; Brennan *et al*., 1998; Picardi *et al*., 2002) is a 36-item self-report measure of two kinds of insecurities in attachment relationships: attachment-related avoidance and attachment anxiety. For each item, participants had to indicate the degree of agreement. Items are rated on a 7-point scale, ranging from 'strongly disagree' to 'strongly agree,' with higher scores indicating grater attachment avoidance and anxiety. Cronbach αs were .90 for the Anxiety subscale and .88 for the Avoidance subscale.

Big Five Inventory-10

The Big Five Inventory-10 (BFI-10; Guido *et al*., 2015) is a 10-item self-report measure of five broad personality traits (Agreeableness, Conscientiousness, Emotional Stability, Extroversion, and Openness). Items are rated on a 5-point scale, ranging from 'strongly disagree' to 'strongly agree', with higher scores indicating higher levels of the personality traits. Given the two-item subscales, the internal consistency was assessed using the Spearman–Brown coefficients, showing acceptable reliability (*i.e*., the coefficients were 0.50 or higher for each subscale).

Procedure

Each participant was individually tested in a quiet room at the Developmental Neuropsychology Laboratory (Department of Psychology, University of Campania Luigi Vanvitelli) in a single session lasting about 30 minutes. After filling out a personal data form (including sex, age, native language, and anamnestic data on past and current psychiatric, neurological and neurodevelopmental conditions), participants completed the 28-item Italian version of the PBSS and four psychometrically valid self-report questionnaires assessing aggressiveness, assertiveness, attachment and personality traits. All measures were administered in paper-and-pencil versions. The administration order of the scales was counterbalanced across participants.

Data analyses

Confirmatory factor analysis (CFA) was conducted to examine the structural validity of the PBSS and determine whether the theoretical two-dimensional structure of the measure fit the observed data. The odd-numbered items were specified to load on the first factor (*i.e.*, Deactivation, De) and the even-numbered items were specified to load on the second factor (*i.e.*, Hyperactivation, Hy). To obtain robust parameter estimates, asymptotic covariance matrices and the maximum likelihood method were used to test the model. As for fit indices, the Maximum Likelihood (MLc^2) goodness-of-fit test statistics in combination with the Root Mean Square Error of Approximation index (*RMSEA*), the Standardized Root Mean Square Residual (*SRMR*), the Tucker-Lewis Index (*TLI*) and the Comparative Fit Index (*CFI*; Browne & Cudeck, 1993; Cheung & Rensvold, 2002; Kline, 2011) were used. The following values were considered to indicate acceptable fit: <0.08 for *RMSEA*; >0.90 for *CFI/TLI* (Browne & Cudeck, 1993; Kline, 2011). As regards the Standardized Root Mean Square Residual (SRMR), although it can be interpreted as the indicator of good fit when it produces a value lower than 0.05, values smaller than 0.10 are considered to indicate acceptable fit (Cangur & Ercan, 2015).

The internal consistency reliability of the Italian versions of the PBSS subscales were evaluated using Cronbach's alpha; values >0.70 were considered adequate (Taber, 2018).

To evaluate the convergent and concurrent validity of the scale, Pearson correlation coefficients between the PBSS subscales and the other theoretically relevant measures were computed. Cohen's guidelines (1988) were considered for the purpose of interpreting the magnitude of the correlations (*e.g.*, r=0.10, r=0.30, and r=0.50 were considered to be small, medium, and large in magnitude, respectively). Because of multiple hypothesis testing, to control for type I error, the *p* values were corrected using the false discovery rate method (FDR; Benjamini & Hochberg, 1995). Finally, sex differences were assessed with a MANOVA conducted on the two PBSS subscales (*i.e.*, De and Hy), with sex (females vs. males) as the between-subjects factor. CFA was performed with LISREL 8.71 software (Jöreskog & Sörbom, 2004), whereas the other analyses were carried out using the Statistical Package for Social Sciences (SPSS Inc, version 22.0). Raw data are available upon request from the first author.

Results

Structural validity

Preliminary descriptive analyses were carried out to examine the variables distributions (*Supplementary Table S2*). The first CFA carried out showed an adequate fit for the 28 items modelled in terms of two factors: $MLc^2(350)=904.62$; $p<0.001$; *RMSEA*=0.069; *SRMR*=0.108; *TLI*=0.91; *CFI*=0.92. The analysis of modification indices (*MI*s) indicated that the Deactivation and Hyperactivation factors were slightly but significantly correlated (Standardized ψ=.163; $p<0.05$), and the error terms of some of the items were significantly correlated: items 12 and 4 (Standardized ε=0.291; p<0.001); items 22 and 10 (Standardized ε=0.309; p<0.001); and items 25 and 7 (Standardized ε=0.179; p<0.001). These additional parameters were included in the 28-item two-factor model, which was considered as the new 28-item two-factor model, and the fit of the model was tested again. Results of the CFA showed again an adequate fit for the corrected 28-item two-factor model which considered all of the significant paths between items, $MLc^2(346)=774.52$; $p<0.001$; $MLc^2/df=2.23$; *RMSEA*=0.061, 95% CI [0.055; 0.066]; *SRMR*=0.105; *ECVI*=2.69; *TLI*=0.93; *CFI*=0.94. The standardized item saturations ranged from 0.73 to 0.28 (*M*=0.45) for the PBSS Deactivation subscale, and from -0.24 to 0.69 (*M*=0.48) for the Hyperactivation subscale (Table 1).

Reliability

Both scales displayed good internal consistency: Cronbach α were 0.833, 95% CI [0.806; 0.858] for the PBSS Deactivation subscale and 0.827, 95% CI [0.798; 0.853] for the Hyperactivation subscale.

Convergent validity

As shown in Table 2, Pearson's correlation coefficients after FDR correction indicated that PBSS deactivation was negatively associated with the AQ verbal aggression score and SIB assertiveness-performance score, whereas it was positively associated with the AQ hostility score and SIB assertiveness distress score. The PBSS hyperactivation subscale was positi-

Table 1. Standardized saturations of the Italian version of the Power Behavioural System Scale.

Item	Deactivation	Hyperactivation
25	0.73	-
17	0.72	-
27	0.67	-
11	0.63	-
5	0.60	-
9	0.51	-
13	0.50	-
21	-0.48	-
19	0.46	-
23	0.46	-
7	0.43	-
1	0.42	-
15	0.37	-
3	0.28	-
12	-	0.69
20	-	0.66
4	-	0.63
18	-	0.62
6	-	0.60
2	-	0.59
8	-	0.52
28	-	0.49
16	-	0.49
14	-	0.44
24	-	0.44
22	-	0.37
10	-	0.36
26	-	-0.24

vely associated with all of the AQ scores (*i.e.*, physical aggression, verbal aggression, anger, hostility) and with SIB assertiveness distress score.

Concurrent validity

As for the correlations between the PBSS subscales and the other constructs (Table 2), significant positive associations were found between the deactivation subscale and both ECR avoidance and anxiety scores. Deactivation was also negatively associated with BFI-10 conscientiousness, extroversion and openness subscales. The PBSS hyperactivation subscale was also positively associated with both ECR avoidance and anxiety scores and was negatively associated with the BFI-10 agreeableness, conscientiousness, and emotional stability subscales.

Sex differences on the PBSS subscales

No sex differences were found on either deactivation, $F(1,329)=0.665$, $p=0.415$, $c^2_p=0.002$, or hyperactivation, $F(1,329)=1.93$, $p=0.165$, $c^2_p=0.006$, subscales (Table 3).

Discussion

Results of the CFA indicated an adequate fit of the Italian version of the PBSS to the predicted two-factor model, thus replicating the results of the original study conducted by Shaver *et al*. (2011). Moreover, in line with Shaver *et al*.'s (2011) results, both Italian-language subscales showed good internal consistency. Further, the validity analyses revealed that the PBSS hyperactivation subscale was positively related with aggressive responses, such as physical and verbal aggression, anger, and hostility. These associations are in line with previous findings showing that hyperactivated power-oriented behaviour involves the use of aggressive behaviours to restore a sense of power (Shaver *et al*., 2011). However, unlike the original study, we also found that the PBSS deactivation subscale was negatively associated with verbal aggression and positively associated with hostility. Therefore, our results showed that the avoidance of situations of competition and dispute, which characterize the deactivation strategy of the power system, can be associated with thoughts and feelings of hostility despite a decrease in overt verbal aggression.

Hostility, as measured by Buss and Perry's (1992) questionnaire, represents the cognitive component of aggression, and is related to an individual's tendency to be suspicious and resentful. Classically, it has been suggested that a hostile attribution bias is linked with a tendency to misinterpret social situations (Dodge, 2011), resulting in an increase in aggressive behaviour (for a review see Klein Tuente *et al*., 2019), as well as hyperactivation of the power system (Shaver *et al*., 2011). However, it is important to underline that deactivation does not imply a re-

Table 2. Pearson correlations between the Power Behavioural System Scale (PBSS) subscales and criterion measures.

Scales	PBSS dimension	
	Deactivation	Hyperactivation
AQ		
AQ–physical aggression	-0.063	0.316***
AQ–verbal aggression	-0.334***	0.234***
AQ–anger	-0.103	0.474***
AQ–hostility	0.230***	0.453***
AQ–total score	-0.039	0.539***
SIB		
SIB–assertiveness (distress)	0.447***	0.341***
SIB–assertiveness (performance)	-0.235***	-0.015
ECR		
ECR–avoidance	0.259***	0.160**
ECR–anxiety	0.137*	0.535***
BFI-10		
BFI-10–agreeableness	0.016	-0.298***
BFI-10–conscientiousness	-0.204***	-0.197***
BFI-10–emotional stability	-0.048	-0.297***
BFI-10–extroversion	-0.276***	-0.014
BFI-10–openness	-0.175**	0.065

AQ, Aggression Questionnaire; SIB, Scale for Interpersonal Behaviour; ECR, Experiences in Close Relationships Inventory; BFI-10, 10-item Big Five Inventory. N=331. *p* value with FDR: *$p<0.05$; **$p<0.01$; ***$p<0.001$.

Table 3. Power Behavioural System Scale (PBSS) subscale means and standard deviations as a function of sex.

PBSS dimensiontotal sample (N=331)	Mean (standard dev)	Sex	
		Males (N=106)	Females (N=225)
Deactivation	42.87 (12.47)	43.68 (10.68)	42.48 (13.24)
Hyperactivation	51.01 (13.33)	49.52 (13.86)	51.71 (13.05)

duced sensitivity to threat, because powerless people are particularly concerned about threats and are very sensitive to threatening signals, experiencing negative emotions when they perceive injustices and attacks (Keltner *et al*., 2003; Shaver *et al*., 2011). Indeed, in Shaver *et al*.'s (2011) study, a positive relation between deactivation and anger internalization was found, suggesting that despite the deactivation of the power system, an angry state of mind can be present, even if not overtly expressed. Hence, we can speculate that increased hostility, far from being exclusive to hyperactivation, can be a shared component of the two secondary strategies of the power system. This component may be related to impairments in the interpretation of social situations and poor social skills, as suggested by difficulties in interpersonal relationships (Anderson *et al*., 2012; Dodge, 2011; Keltner *et al*. 2003; Shaver *et al*., 2011).

Regarding associations between assertiveness and the power system, results showed that both deactivation and hyperactivation strategies of the power system were related to increased discomfort (distress) associated with attempts at self-assertion, whereas only deactivation was related to a decrease in assertive behaviour (performance). These findings partially confirm Shaver *et al*.'s (2011) findings. Indeed, these authors showed that both hyperactivation and deactivation were linked with lower feelings of dominance and power, whereas only the deactivation strategy was associated with submissiveness, self-abasement, and lack of assertiveness.

We also explored associations between the secondary power strategies (hyperactivation and deactivation) and insecurity in romantic attachment (anxious and avoidant attachment) in adulthood, as assessed by the ECR, obtaining a partial overlap with Shaver *et al*.'s (2011) results. Besides the associations between PBSS hyperactivation and both attachment anxiety and avoidance and between PBSS deactivation and attachment anxiety already found in the original study, our data also showed a positive association between attachment-related avoidance and deactivation of the power system. Importantly, Shaver *et al*.'s (2011) results showed correlations between ECR and PBSS scores that were only moderate in size. The present results were largely consistent with Shaver *et al*.'s (2011), thus supporting the view that the PBSS can measure a construct distinctive of the power system and not simply redundant with attachment insecurity (Shaver *et al*., 2011).

Fitting with Shaver *et al*.'s (2011) findings, correlational analysis of the power system subscales and the big five personality traits revealed that hyperactivation was significantly associated with lower agreeableness and emotional stability, whereas deactivation was significantly associated with lower extroversion. However, we also found that both PBSS subscales were significantly associated with lower conscientiousness and that deactivation was significantly associated with lower openness. Conscientiousness includes a tendency to follow socially prescribed norms to control and plan goal-oriented behaviour, sometimes requiring delay of gratification (Roberts *et al*., 2009). It has been shown that secondary power strategies can negatively influence self-regulation processes (Mikulincer *et al*., 2003), increasing the risk of emotional problems (Keltner *et al*., 2003; Mikulincer & Shaver, 2011). Our results support the expectation that both secondary power strategies would play a negative role in behavioural regulation processes aimed at achieving socially attainable goals, while only deactivation appears to be negatively related with openness. Consistent with this finding, it is important to note that Barlett and Anderson (2012) demonstrated a direct and positive effect of openness on physical aggression, a behaviour that is typically reduced by a power deactivation strategy (Shaver *et al*., 2011).

Finally, we did not find significant sex differences in PBSS scores. Although gender differences were not investigated in original Shaver *et al*.'s (2011) study and therefore need to be further tested, our results are consistent with previous finding on lack of sex differences in the personal sense of power (Anderson *et al*., 2012).

Limitations and future developments

Limitations of the present study should be considered. First, participants in our study were young adults recruited from different universities; thus, caution is needed in generalizing our data. Future studies should verify the stability and generalizability of the model across different groups, testing both the invariance of the model form (*i.e*., configural invariance) and the equality constraints on the structural parameter estimates (*e.g*., the measurement invariance) across different populations.

Adoption of hyperactivation or deactivation strategies can increase the risk for emotional problems and psychopathology (Johnson *et al*., 2012; Mikulincer & Shaver, 2012), interfere with emotion regulation processes (Mikulincer *et al*., 2003), and negatively affect psychotherapeutic processes (Salzano & Conson, 2020). For instance, according to an evolutionary perspective on psychopathology, clinical depression implies the persistent activation of defensive strategies relating to attachment and power systems, with some core depressive symptoms, such as behavioural withdrawal, low self-esteem and anhedonia, having evolved to regulate behaviour and mood, and conveying sensitivity to threat and safety (Sloman *et al*., 2003). In a therapeutic context, positively reframing symptoms can be accomplished by demonstrating how the patient's depression and low self-esteem are designed to avoid or terminate conflict and portraying this as a form of self-sacrifice that is geared to preserve a relationship (Price, 2000). The investigation of basic clinical variables such as depression, anxiety or other dimensions related to psychological well-being or psychopathology was outside the main aim of the present study. However, because of the clinical relevance of the power behavioural system, this lack can be considered as a limitation that needs to be remedied in future studies.

Conclusions

Notwithstanding the above limitations, a psychometric analysis of the 28-item Italian version of the Power Behavioural System Scale (PBSS) showed an adequate fit of the data to a two-factor model and indicated that the measure was reliable and had good convergent and structural validity, allowing its use to quantify individual differences in secondary power strategies (*i.e*., deactivation and hyperactivation). In clinical practice, the assessment of power strategies could be an important part of understanding a client's behaviour in specific settings, such as a single interaction with another person, long-term dyadic relationships, such as with a friend, as well as in family group, or in more general contexts, such as group memberships (Anderson *et al*., 2012). Also, the assessment of power strategies can be important in the therapeutic setting, because of the relevance of dealing with dysfunctional power strategies for building a good therapeutic alliance (Proctor, 2002, 2008).

Hence, gaining a reliable and valid measure of hyperactivation and deactivation of the power system is important for un-

derstanding an individual's responses to different social contexts. In a clinical setting, it can help the therapist to identify a client's difficulties with power and assertiveness, which could affect interpersonal relationships in general and could potentially undermine the therapeutic process.

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Online supplementary material:

Table S1. Items of the Italian version of the PBSS.

Table S2. Descriptive of the Italian version of the PBSS.