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Development and Validation of the Clinical Confidence and Psychodynamic Skills in Personality Disorder Questionnaire

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ABSTRACT

Clinicians often experience frustration and uncertainty when working with patients with personality disorder (PD). Several evidence-based treatments are available, some deriving from psychodynamic theory. Despite the clinical relevance of confidence in managing such encounters, no validated measure of clinicians' confidence in assessing, structuring treatment, and applying psychodynamic skills in the work with PD patients exists. This study reports the development and validation of the Clinical Confidence and Psychodynamic skills in Personality Disorder Questionnaire (CCPPDQ). The CCPPDQ is a 13-item self-administered questionnaire. 314 psychiatrists and psychiatry residents from the United Kingdom, Italy, India, and Malaysia completed it during applied transference focused psychotherapy (TFP) training (2022–2024). Exploratory and confirmatory factor analyses identified and confirmed the underlying structure. Internal consistency, test–retest reliability, and convergent validity with the Attitudes to Personality Disorder Questionnaire (APDQ) were assessed. Gender differences and predictors of CCPPDQ scores were also analyzed. Analyses supported a two-factor structure: Confidence in Assessment and Structuring Treatment (CAST) and Confidence in Applying Psychodynamic Techniques (CAPT), accounting for 58.5% of total variance. The CCPPDQ showed excellent internal consistency ($\omega = 0.93$) and strong test–retest reliability ($ICC = 0.92$). Convergent validity was supported by positive correlations with APDQ total and subscale scores, particularly Enjoyment and Security. Regression analyses identified age, gender, and APDQ scores as significant predictors of CCPPDQ outcomes. The CCPPDQ is a reliable tool for assessing clinicians' confidence in working with PD patients. Its subscales capture meaningful aspects of psychodynamic practice, offering utility for training, supervision, and research.

1 | Introduction

Personality disorders (PDs) are highly prevalent, affecting an estimated 9%–12% (Volkert et al. 2018; Winsper et al. 2020) of the general population, with rates rising to approximately 52% among psychiatry out-patients and even

higher proportions reported in inpatient settings (Beckwith et al. 2014; Zimmerman et al. 2008). Despite their frequency in clinical practice, many mental health professionals report feeling insufficiently equipped to manage individuals with PD (Baker and Beazley 2022). The interpersonal dysfunction of patients with PD also presents in the clinical encounter, and

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studies have shown that psychiatrists often feel frustrated and inadequate and are stigmatizing to patients with PD (Chartonas et al. 2017; Lewis and Appleby 1988). Of particular concern, negative perceptions of patients with PD appear to intensify over the course of psychiatric training (Lindell-Innes et al. 2023). Such attitudes are consistently described as contributing to poorer care and service provision, including reduced treatment optimism, less willingness to engage, and a tendency to view PD as a “diagnosis of exclusion” (Attwood et al. 2021; Loader 2017; McKenzie et al. 2022). Large surveys of hospital staff and clinicians similarly find that more negative attitudes and lower empathy are associated with questioning the legitimacy of hospitalization and lesser willingness to invest in treatment for PD relative to major depression (Black et al. 2011; Bodner et al. 2015).

Several evidence-based treatments for PD are currently available, derived from different theoretical models (Leichsenring et al. 2024; Stoffers-Winterling et al. 2022). Among them, the application of the psychoanalytical object relation theory has proven validated efficacy in assessing and treating personality pathology (Stern et al. 2018; Yeomans et al. 2015). Evidence suggests that brief teaching in mentalizing skills or transference focused psychotherapy (TFP) significantly improves attitudes towards PD, enhances perceived ability to use specific techniques, and increases confidence in offering therapeutic encounters (Arif Abdul Rassip et al. 2025; Lau and Meek 2024; Lee et al. 2022; Polnay et al. 2015; Sinisi et al. 2025; Temmingh et al. 2024). However, a validated instrument assessing clinicians' confidence in assessing, structuring treatment and applying psychodynamic skills when treating patients with PD is not available in literature. To address this recognized gap, the Clinical Confidence and Psychodynamic skills in Personality Disorder Questionnaire (CCPPDQ) was developed.

Existing work on therapist competence focuses on observable abilities and skills that enable effective psychotherapy. Systematic reviews show that therapists differ in the outcomes their patients achieve and that these differences are partly explained by intrapersonal and interpersonal capacities such as attachment security, emotional tolerance, and the ability to maintain focus and engagement with more disturbed patients (Heinonen and Nissen-Lie 2020; Hill et al. 2017). Classic demographic variables such as age, gender, profession, and years of experience usually do not predict outcome once competence or skill-related variables are considered (Anderson et al. 2009; Chow et al. 2015; Delgadillo et al. 2020; Kraus et al. 2011; Schöttke et al. 2017).

In psychodynamic and relational therapies, competence is usually operationalized via structured rating scales applied to recordings of sessions, covering technical elements (e.g., interpretation, focus on affect, and handling transference) and relational skills (e.g., empathy and alliance) (Barlow and Brown 2020; Ottman et al. 2020; Ventura Wurman 2019). However, reviews find relatively few competence measures for psychodynamic and other relational models, many with limited psychometric evidence and no clear “gold standard” (Barlow and Brown 2020; Ottman et al. 2020; Yager 2025). Recent work on dynamic interpersonal therapy shows that when competence is carefully operationalized for a specific psychodynamic model, higher competence

can predict greater symptom improvement and faster recovery, especially with more complex patients (Ventura Wurman 2019). Existing competence measures for psychodynamic work rarely focus on personality disorders as a clinical domain, and most are observer based rather than scalable self report tools (Barlow and Brown 2020; Ottman et al. 2020; Ventura Wurman 2019). Overall, this literature underscores that competence is model and context specific, that good measures are scarce in relational/psychodynamic approaches, and that more precise, targeted tools are needed. Within this competence framework, the CCPPDQ can be positioned as a domain-specific competence-adjacent instrument: It does not rate technical performance directly but targets clinicians' perceived ability to assess patient with PD, structure their treatment and apply psychodynamic skills in the clinical encounter, a context where emotional intensity, hostility, and chronic relational difficulties place high demands on the therapist (Heinonen and Nissen-Lie 2020; Ventura Wurman 2019).

In parallel, a substantial literature examines therapist confidence, self-efficacy, and self-assessment. Professional self-confidence refers to feeling capable of using therapeutic methods effectively; it is considered a key aspect of therapist development and performance (Gori et al. 2022; Weck et al. 2023). A scoping review on provider self efficacy in delivering evidence-based interventions highlights that confidence is usually defined in intervention specific terms, that measures are highly heterogeneous and often ad hoc, and that no shared standard exists (Shapiro et al. 2021). Existing confidence measures are typically generic or tied to specific evidence-based protocols, but not to psychodynamic work with personality disorders (Gori et al. 2023; Li et al. 2022; Shapiro et al. 2021). There appears to be no validated instrument focusing specifically on clinicians' confidence in assessing and structuring treatment with PD patients and deploying psychodynamic techniques (e.g., working with transference, managing intense affect, and maintaining boundaries) with these patients. Importantly, a systematic review of therapist characteristics suggests that therapists' self-perceived skills, difficulties, and attitudes towards therapeutic work predict aspects of outcome and alliance (Gori et al. 2023; Heinonen and Nissen-Lie 2020). The CCPPDQ targets this intersection between working with a specific population (PD) and applying model-specific skills (psychodynamic).

The aim of the present study is to assess the psychometric properties and validate the CCPPDQ, ensuring its reliability and applicability in clinical and research settings. Additionally, the study examines gender differences in CCPPDQ scores and investigates potential predictors of CCPPDQ outcomes, providing further insights into factors influencing confidence levels in personality disorder assessments.

2 | Methods

2.1 | Instrument Development

Two psychiatrists working in a specialist personality disorder service independently identified clinical components, which may be important to evaluate the level of confidence clinicians may feel regarding their ability to assess, structure treatment,

and apply psychodynamic techniques when working with patients with PD. There was a consensus on the following components: a theory of PD, the ability to discuss a diagnosis of PD, setting of treatment objectives, and management of the treatment frame and of the dynamics, including the transference, in the encounter. These items were presented to the multidisciplinary team (MDT) to further test consensus and comprehensibility. The MDT were asked to consider overall ease of completion, relevance of questions and rating scale response, and time taken to complete.

2.2 | Questionnaire Description

The beta version of the CCPPDQ, developed for validation purposes, is a self-administered questionnaire consisting of 13 items. Respondents indicate their level of agreement with each statement using a Likert scale ranging from 1 (*never*) to 6 (*always*). No items are reverse scored. The total score, ranging from 13 to 78, is obtained by summing the scores of all individual items (see [Supporting Information](#)).

2.3 | Participants

The beta version of the CCPPDQ is a psychometric instrument designed for healthcare professionals (psychiatrists, psychotherapists, and psychologists) working in the field of mental health. For validation purposes, Clark and Watson (1995) suggested that an adequate sample size for questionnaire validation should be no fewer than 300 respondents. Additionally, Comrey and Lee (1992) proposed a graded scale for sample size evaluation: 100 respondents = *poor*; 200 = *fair*; 300 = *good*; 500 = *very good*; and ≥ 1000 = *excellent*. Based on these guidelines, our objective was to collect at least 300 completed questionnaires to meet both Clark and Watson's (1995) and Comrey and Lee's (1992) criteria. To ensure data integrity, we included only participants who completed all questionnaire items. The inclusion criteria were being a healthcare professional working in mental healthcare and providing informed consent to fill in the questionnaire. No financial incentives or grants were offered to participants. Participants were recruited in separate trainings of applied TFP in four countries (United Kingdom, Italy, India, and Malaysia) from October 2022 to August 2024 (Arif Abdul Rassip et al. 2025; Sinisi et al. 2022, 2025). All participation was voluntary. All participants were psychiatrists or residents in psychiatry enrolled throughout formation programs. The CCPPDQ was administered in English in all participating countries. All training programs were delivered in English, and participants were required to have sufficient professional proficiency in the language. No translated or culturally adapted versions were used in the present study.

2.4 | Statistical Analysis

Descriptive statistics were calculated for socio-demographic variables, including mean and standard deviation for continuous data and absolute and percentage frequencies for categorical data. Data analysis was conducted using SPSS (Version 26) and JASP (Version 0.17.3).

2.5 | Exploratory Factor Analysis

Exploratory factor analysis (EFA) (Watkins 2018) was conducted using a common factor model with maximum likelihood extraction to examine the latent structure of the questionnaire. This approach differs conceptually from principal component analysis (PCA), as it models shared variance attributable to underlying latent factors rather than total variance (Fabrigar et al. 1999). The suitability of the dataset for factor analysis was assessed using the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy (MSA) (Kaiser 1974), MSA for individual items (Hair et al. 2019), and Bartlett's test of sphericity (Bartlett 1951). Although these indices are considered preliminary diagnostics, they were retained to document sampling adequacy and factorability of the correlation matrix prior to extraction. The suitability of the dataset for factor analysis was assessed using the KMO MSA, the MSA for individual items, and Bartlett's test of sphericity. These indices were used to document sampling adequacy and factorability of the correlation matrix prior to extraction. The Bartlett's test of sphericity was used to determine whether the correlation matrix was significantly different from an identity matrix, with *p*-values below 0.05 indicating that the data were suitable for factor extraction. The number of factors was determined based on visual inspection of the scree plot and the Kaiser criterion (eigenvalues > 1.0) (Cattell 1966). During factor extraction, oblique (oblimin) rotation was applied to improve interpretability while allowing for potential intercorrelations between factors. The factor structure was evaluated based on pattern loadings obtained after oblique rotation. To enhance interpretability, items were retained if they demonstrated loadings ≥ 0.30 on their primary factor and cross-loadings ≤ 0.20 on other factors (Fabrigar et al. 1999). Global fit indices were evaluated within the CFA framework, which provides a more appropriate context for model fit assessment in the present study.

2.6 | Confirmatory Factor Analysis

To test the factor structure identified through EFA, a confirmatory factor analysis (CFA) was conducted on the same dataset used in the exploratory phase. In this context, the CFA should be interpreted as a more restrictive confirmatory test of the structure identified in the EFA, rather than as an independent cross-validation. To assess the normality of the data distribution, the Shapiro–Wilk test was applied. This test evaluates whether a sample comes from a normally distributed population and is particularly suitable for small to medium-sized samples. A *p*-value below 0.05 was considered indicative of a significant deviation from normality (Shapiro and Wilk 1965). To ensure a sufficient association between items and factors, the following correlations were examined: inter-item correlations, with an average expected range between 0.20 and 0.40 (Piedmont 2014); item-to-factor correlations, where coefficients > 0.40 indicate convergent validity of items within the same factor; and inter-factor correlations, with coefficients > 0.40 supporting convergent validity. Model fit was evaluated based on standard goodness-of-fit criteria (Kline 2005). Given that χ^2 is highly sensitive to sample size, we considered the relative χ^2/df ratio, with values < 5 commonly accepted as indicative of an adequate

fit. Further fit indices included the root mean-squared error of approximation (RMSEA), with values <0.08 considered acceptable (Hu and Bentler 1999), as well as the comparative fit index (CFI) (Bentler 1990) and Tucker–Lewis index (TLI) (Tucker and Lewis 1973), where values ≥ 0.95 were interpreted as indicating good model fit (Hu and Bentler 1999). The standardized root mean square residual (SRMR) was used to assess model fit by measuring the average discrepancy between observed and predicted correlations. Values ≤ 0.08 indicate an acceptable fit, whereas ≤ 0.05 suggest a good fit (Hu and Bentler 1999).

2.7 | Internal Consistency

Internal consistency was assessed using McDonald's omega (ω) (Kalkbrenner 2023) with 95% confidence intervals (CI) at both the factor and scale levels. The following cutoffs were used to interpret reliability: ≥ 0.70 , acceptable reliability; ≥ 0.80 , good reliability; ≥ 0.90 , excellent reliability. Additionally, the impact of individual items on reliability was examined through “reliability if item deleted” analyses. Test–retest reliability was evaluated in a subsample of participants who completed the questionnaire at two time points (pre- and post-training), with an interval corresponding to the duration of the applied TFP training program (approximately 2 weeks). This analysis was conducted to estimate temporal stability and was not intended to test hypotheses regarding change in mean scores or factor structure. Spearman's rho (ρ) was calculated to assess rank-order stability between administrations. In addition, the intraclass correlation coefficient (ICC, two-way mixed model, absolute agreement) was computed to quantify agreement between repeated measurements. The retest subsample size exceeded 50 participants, a range commonly considered adequate for reliability estimation (Koo and Li 2016; Terwee et al. 2007). A Spearman's rho correlation coefficient above 0.70 is generally considered indicative of good test–retest reliability. Specifically, values between 0.70 and 0.79 are classified as acceptable, those between 0.80 and 0.89 as good, and values ≥ 0.90 as excellent (Zar 2010). Additionally, ICC was computed to quantify the agreement between repeated measurements. The following cutoffs were used for interpretation: <0.50 , poor reliability; 0.50 – 0.75 , moderate reliability; 0.75 – 0.90 , good reliability; >0.90 , excellent reliability (Koo and Li 2016).

2.8 | Convergent Validity

Convergent validity, which assesses how well a test measures the theoretical construct it is intended to capture by comparing it with other similar validated measures, was evaluated by examining the correlations (Spearman's rho) between CCPPDQ scores (total score and potential subscale scores) and Attitude to Personality Disorder Questionnaire (APDQ) scores (both the total score and subscale scores). Given that the APDQ is a validated measure theoretically expected to be positively correlated with the CCPPDQ.

The APDQ (Bowers and Allan 2006) is a self-report instrument consisting of 37 items designed to assess both positive and negative emotions commonly experienced by professionals working with patients with PD. The questionnaire includes both positive and negative items, with specific ones requiring reverse scoring (items 2, 3, 6, 8, 9, 10, 12, 13, 15, 16, 17, 18, 20, 21, 24, 25, 27, 30,

32, 36, and 37). The APDQ is structured into five distinct subscales, each representing a different dimension of attitude. The Enjoyment subscale, calculated as the average score of 15 items (1, 4, 5, 7, 11, 14, 19, 22, 23, 26, 28, 31, 33, 34, and 35), assesses the level of positive emotional engagement with PD patients. The Security subscale, based on 10 items (6, 8, 9, 15, 16, 24, 27, 30, 32, and 36), evaluates feelings of safety and confidence in managing these patients. The Acceptance subscale, derived from five items (17, 20, 21, 25, and 37), measures the extent to which professionals hold an accepting and nonjudgmental stance. The Purpose subscale, calculated from three items (10, 12, and 13), reflects the perceived meaningfulness of working with PD patients. The Enthusiasm subscale, composed of two items (2 and 3), captures the level of motivation and engagement in this clinical work. The total APDQ score is obtained by summing the scores of all five subscales, providing an overall measure of attitudes towards personality disorders. The APDQ demonstrates strong psychometric properties. Factor analysis confirms a five-factor structure with high internal consistency (Cronbach's $\alpha=0.94$). Test–retest reliability is good to excellent (ICC= 0.72 – 0.85), ensuring stability over time.

2.9 | Gender Differences in CCPPDQ Scores

The difference in mean scores obtained on the total score and potential subscales of the CCPPDQ between males and females was analyzed using the Mann–Whitney *U* test (Nachar 2008).

2.10 | Analysis of Potential Predictors of CCPPDQ Scores

To identify potential predictors of CCPPDQ scores, a series of regression analyses were conducted. The linear regression models included the total CCPPDQ score and the scores of its potential subscales as dependent variables, whereas gender, age, and APDQ total score were considered independent variables. Collinearity among independent variables was evaluated using tolerance and variance inflation factor (VIF) indices to ensure that multicollinearity did not significantly affect the regression models. A tolerance value greater than 0.20 was considered indicative of an acceptable level of collinearity, whereas a VIF value below 5 suggested that multicollinearity was not a concern (Hair et al. 2019). Given the multinational composition of the sample, issues of cross-national measurement invariance should be considered. However, formal multi-group CFA to test measurement invariance across countries was beyond the scope of the present initial validation study. Future research should examine configural, metric, and scalar invariance to determine whether the factor structure remains stable across different national and linguistic contexts.

3 | Results

3.1 | Participants

The study included a total of 314 participants, distributed across different cohorts. The largest proportion of participants belonged to the London cohort (34.71%), followed by India

TABLE 1 | Socio-demographic characteristics of the cohorts.

	India (<i>n</i> = 96, 30.57%)	Italy (<i>n</i> = 71, 22.61%)	Malaysia (<i>n</i> = 38, 12.10%)	United Kingdom (<i>n</i> = 109, 34.71%)	Total (<i>N</i> = 314)
Age group, <i>n</i> (%)					
< 25	1 (1.04)	0	1 (2.63)	4 (4.26)	6 (2.01)
25–29	0	45 (63.38)	0	37 (39.36)	82 (27.42)
30–34	60 (62.50)	23 (32.39)	23 (60.53)	34 (36.17)	140 (46.82)
35–39	25 (26.04)	1 (1.41)	14 (36.84)	7 (7.45)	47 (15.72)
40–44	0	0	0	6 (6.38)	6 (2.01)
45–50	6 (6.25)	0	0	4 (4.26)	10 (3.34)
> 50	4 (4.17)	2 (2.82)	0	2 (2.13)	8 (2.68)
Missing	0	0	0	15 (13.76)	15 (4.78)
Gender, <i>n</i> (%)					
Male	34 (35.42)	29 (40.85)	9 (23.68)	33 (35.11)	105 (35.12)
Female	62 (64.58)	41 (57.75)	29 (76.32)	58 (61.70)	190 (63.55)
Nonbinary	0	0	0	1 (1.06)	1 (0.33)
Prefer not to say	0	1 (1.41)	0	2 (2.13)	3 (1.00)
Missing	0	0	0	15 (13.76)	15 (4.78)

Abbreviation: *n*, number.

(30.57%), Italy (22.61%), and Malaysia (12.10%). Regarding age distribution (information available for 299 participants), the majority of participants were aged 30–34 years (46.82%), followed by the 25–29 age group (27.42%). In terms of gender identity (information available for 299), the sample was predominantly female (63.55%), with male participants comprising 35.12%. A small proportion of respondents selected “prefer not to say” (1.00%), whereas 0.33% identified as non-binary. Full description of the socio-demographic characteristics of the cohorts is reported in Table 1.

The full inter-item Spearman's ρ correlation matrix is reported in Table S1 to allow comprehensive inspection of the underlying data structure prior to factor extraction.

3.2 | EFA

The overall KMO index was 0.94, indicating excellent sampling adequacy. Moreover, the MSA for individual items ranged from 0.89 to 0.96 (Table 2), confirming that all items were well suited for factor analysis. Bartlett's test of sphericity produced a χ^2 value of 2540.31 (*df* = 78, p < 0.001), indicating that the correlation matrix significantly differed from an identity matrix, further supporting the suitability of the data for factor extraction.

The scree plot suggested a two-factor solution, which accounted for 58.5% of the total variance (Figure 1).

As shown in Table 3, Factor 1 has an eigenvalue of 7.21, whereas Factor 2 an eigenvalue of 1.21, supporting the decision to retain these two factors. In the unrotated solution, Factor 1 explains

TABLE 2 | Measure of sampling adequacy (MSA) for individual items.

Item	MSA
Item 1	0.96
Item 2	0.92
Item 3	0.89
Item 4	0.93
Item 5	0.93
Item 6	0.94
Item 7	0.96
Item 8	0.95
Item 9	0.94
Item 10	0.93
Item 11	0.93
Item 12	0.95
Item 13	0.95

52.50% of the variance (sum of square loadings = 6.82), whereas Factor 2 explains 6.00% (sum of square loadings = 0.78), yielding a cumulative explained variance of 58.50%. In the rotated solution, Factor 1 accounted for 32.50% of the variance (sum of square loadings = 4.23), and Factor 2 for 25.90% (sum of square loadings = 3.37), with the same cumulative variance of 58.50%. Table 4 presents the factor loadings from the EFA, showing how

individual items (items 1–13) loaded onto the two extracted factors. Factor 1 comprises items 8, 9, 10, 11, 12, and 13, with loadings ranging from 0.50 to 0.91. Factor 2 includes items 1, 2, 3, 4, 5, and 6, with loadings ranging from 0.56 to 0.85.

3.3 | CFA

The Shapiro–Wilk test revealed that the distribution of the total score and both factors significantly deviated from normality. Specifically, the total score showed a W value of 0.99 with $p = 0.002$, whereas both Factor 1 and Factor 2 yielded W values of 0.98 with $p < 0.001$.

The average inter-item correlation (Table 5) for Factor 1 (7 items) was 0.61, and for Factor 2 (6 items), it was 0.52, both exceeding the upper recommended threshold. As shown in Table 6, all items demonstrated strong and statistically significant correlations with their assigned factor ($p < 0.001$). For Factor 1, item-to-factor correlations ranged from 0.74 to 0.84, whereas for Factor 2, correlations ranged from 0.64 to 0.82. Regarding the inter-factor correlation, Factor 1 and Factor 2 exhibited a strong positive correlation ($\rho = 0.71$, $p < 0.001$).

The goodness-of-fit indices suggest an acceptable fit of the model to the data. The chi-square to degrees of freedom ratio (χ^2/df) was 3.21, which falls within the range considered indicative of an acceptable model fit (< 5). The RMSEA was 0.084. Regarding comparative fit indices, the CFI was 0.944, and the TLI was 0.931. The SRMR for the model was 0.04, indicating a good fit according to established thresholds. All standardized factor loadings were statistically significant ($p < 0.001$), ranging from 0.56 to 0.90 for Factor 1 and from 0.77 to 0.92 for Factor 2. Item

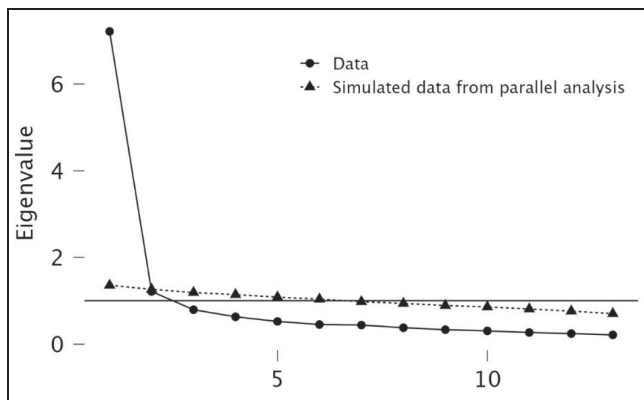


FIGURE 1 | Scree plot and parallel analysis for factor retention decision.

TABLE 4 | Factor loadings of the CCPPDQ items.

Items	Factor 1	Factor 2
1		0.57
2		0.65
3		0.63
4		0.85
5		0.78
6		0.64
7	0.50	
8	0.64	
9	0.85	
10	0.91	
11	0.85	
12	0.70	
13	0.63	

TABLE 5 | Average inter-item correlations for each factor.

Factor 1		Factor 2	
Average mean	Number of items	Average mean	Number of items
0.61	7	0.52	6

TABLE 6 | Item-to-factor correlation analysis.

Factor 1		Factor 2	
Item	Correlation (Spearman's rho)	Item	Correlation (Spearman's rho)
7	0.75*	1	0.77*
8	0.82*	2	0.73*
9	0.84*	3	0.64*
10	0.84*	4	0.81*
11	0.82*	5	0.82*
12	0.78*	6	0.78*
13	0.74*		

* $p < 0.001$.

TABLE 3 | Eigenvalues, variance explained, and factor loadings for the unrotated and rotated factor solutions.

Unrotated solution					Rotated solution		
	Eigenvalues	SumSq. loadings	Proportion var.	Cumulative	SumSq. loadings	Proportion var.	Cumulative
Factor 1	7.21	6.82	0.53	0.53	4.23	0.33	0.33
Factor 2	1.21	0.78	0.06	0.59	3.37	0.26	0.59

TABLE 7 | McDonald's omega reliability estimates.

	McDonald's omega (95% CI)
Total score	0.93 (0.92–0.94)
Factor 1	0.92 (0.90–0.93)
Factor 2	0.87 (0.84–0.89)

R^2 values ranged from 0.26 to 0.72, indicating that between 26% and 72% of the variance in individual items was explained by the corresponding latent factors. A one-factor model was tested to evaluate whether the CCPPDQ could be represented as a unidimensional construct. The one-factor model demonstrated poor fit ($\chi^2(65)=379.03$, CFI=0.875, TLI=0.850, RMSEA=0.125, SRMR=0.060). In contrast, the two-factor model showed substantially improved fit ($\chi^2(64)=205.71$, CFI=0.944, TLI=0.931, RMSEA=0.084, SRMR=0.043). The chi-square difference test confirmed that the two-factor solution provided a significantly better fit ($\Delta\chi^2(1)=173.32$, $p<0.001$), supporting the retention of two correlated but distinct dimensions.

3.4 | Internal Consistency

Internal consistency was assessed using McDonald's omega (ω), computed at both the scale and factor levels. The overall questionnaire demonstrated excellent reliability, with $\omega=0.93$ (95% CI, 0.92–0.94). At the factor level, Factor 1 also exhibited excellent reliability, with $\omega=0.92$ (95% CI, 0.90–0.93), whereas Factor 2 showed slightly lower but still good reliability, with $\omega=0.87$ (95% CI, 0.84–0.89) (Table 7).

The impact of individual items on reliability was examined through the “if item dropped” analysis. Across all items, McDonald's omega remained consistently high, indicating that no single item had a substantial negative impact on the overall reliability. The values ranged from 0.90 to 0.92 for Factor 1 and from 0.84 to 0.93 for Factor 2, supporting the robustness of the scale (Table 8).

Test-retest reliability was evaluated in a subsample of 51 participants. This subsample size falls within the range commonly considered adequate for reliability estimation in methodological literature (Koo and Li 2016; Terwee et al. 2007). Spearman's rho analysis showed significant and moderate-to-good test-retest reliability, with a correlation of 0.66 ($p<0.001$) for the total score. At the factor level, Factor 1 exhibited a lower but still acceptable correlation ($\rho=0.56$, $p<0.001$), whereas Factor 2 demonstrated a stronger correlation ($\rho=0.61$, $p<0.001$). The test-retest correlations are reported in Table 9. ICC analysis further confirmed the excellent test-retest reliability of the scale, with an ICC value of 0.92 (95% CI, 0.910–0.935).

3.5 | Convergent Validity

As expected, the correlation between APDQ and CCPPDQ scores was positive and statistically significant, supporting the theoretical overlap between the two measures (Table 10). The CCPPDQ total score showed a moderate to strong correlation

TABLE 8 | McDonald's omega if item is dropped.

	McDonald's ω if item is dropped		
Item	Total score	Factor 1	Factor 2
1	0.93		0.84
2	0.93		0.85
3	0.93		0.87
4	0.92		0.82
5	0.93		0.83
6	0.92		0.84
7	0.92	0.91	
8	0.92	0.90	
9	0.92	0.90	
10	0.92	0.90	
11	0.92	0.90	
12	0.93	0.91	
13	0.93	0.92	

Note: Shaded cells indicate items not included in the corresponding factor score; therefore, McDonald's ω if item is dropped was not calculated for those cells. Items 1–6 contributed to Factor 2, whereas items 7–11 contributed to Factor 1.

TABLE 9 | Test-retest reliability (Spearman's rho).

	Post total score	Post Factor 1 score	Post Factor 2 score
Pre total score	0.66*		
Pre Factor 1 score		0.56*	
Pre Factor 2 score			0.61*

Note: Shaded cells indicate correlations not relevant to the test-retest reliability analysis; only corresponding pre-post scores were considered. * $p<0.001$.

with the APDQ total score ($\rho=0.38$, $p<0.001$) and the APDQ enjoyment subscale ($\rho=0.40$, $p<0.001$). At the factor level, Factor 1 of the CCPPDQ displayed the strongest correlation with APDQ enjoyment ($\rho=0.33$, $p<0.001$) and lower correlations with other APDQ subscales, ranging from $\rho=0.15$ ($p=0.009$, enthusiasm) to $\rho=0.30$ ($p<0.001$, total APDQ score). Similarly, Factor 2 exhibited the strongest association with APDQ enjoyment ($\rho=0.41$, $p<0.001$) and moderate correlations with the other APDQ subscales, with values ranging from $\rho=0.22$ ($p<0.001$, acceptance and enthusiasm) to $\rho=0.41$ ($p<0.001$, APDQ total score).

3.6 | Gender Differences in CCPPDQ Scores

The results indicate a statistically significant difference between the two groups across all scores (Table 11). The CCPPDQ total score was significantly higher in males ($W=11845.00$, $p=0.001$), with males (37.53 ± 10.25) scoring higher than females (33.43 ± 9.72). For Factor 1, males also scored significantly

higher ($W = 11352.50$, $p = 0.01$), with mean scores of 19.71 ± 5.88 compared to 17.91 ± 5.78 in females. Similarly, Factor 2 showed a significant difference ($W = 12164.50$, $p < 0.001$), where males scored 17.85 ± 5.25 and females scored 15.52 ± 4.69 .

3.7 | Analysis of Potential Predictors of CCPPDQ Scores

The regression analysis examined the influence of age, gender, and APDQ total score on the CCPPDQ total score, Factor 1 score, and Factor 2 score (Table 12).

For the CCPPDQ total score, age was a significant positive predictor ($B = 2.39$, $p < 0.001$), indicating that moving to a higher age group was associated with a 2.39-point increase in the total score. Gender had a significant effect ($B = -2.98$, $p = 0.007$), with females scoring lower than males. Additionally, the APDQ total score was positively correlated with the CCPPDQ total score ($B = 0.18$, $p < 0.001$), suggesting that individuals with higher APDQ scores tended to have higher CCPPDQ total scores.

When considering the Factor 1 score, age remained a significant predictor ($B = 1.15$, $p < 0.001$), indicating that older participants had higher scores. The APDQ total score was also positively associated with Factor 1 ($B = 0.08$, $p < 0.001$), though with a smaller effect size compared to the total score. Gender did not reach statistical significance ($p = 0.07$), suggesting no substantial differences between males and females in this factor.

For the Factor 2 score, age continued to show a significant positive effect ($B = 1.25$, $p < 0.001$). Gender had a significant negative association ($B = -1.743$, $p = 0.001$), indicating that females scored lower than males on this factor. Additionally, the APDQ total score was positively correlated with Factor 2 ($B = 0.10$, $p < 0.001$), reinforcing the relationship between APDQ and CCPPDQ. Collinearity diagnostics (tolerance > 0.20 , VIF < 5) confirmed that multicollinearity was not a concern, ensuring that each independent variable contributed uniquely to the prediction of CCPPDQ scores.

4 | Discussion

This validation study of the CCPPDQ identified two key subscales: Confidence in Assessment and Structuring Treatment (CAST) and Confidence in Applying Psychodynamic Techniques (CAPT). These subscales represent distinct dimensions of perceived competence in working with patients diagnosed with PD and thus are useful for planning of the training about PD for clinicians in mental healthcare.

The CCPPDQ showed meaningful convergence with the Enjoyment and Security subscales of the APDQ, supporting its construct validity. In this light, the correlation between the APDQ-Enjoyment subscale (which includes items related to warmth and pleasantness) and the CAST subscale becomes especially meaningful. On the other hand, the association of CAPT with the APDQ-Security subscale may be understood as reflecting the capacity to apply structured therapeutic techniques to

TABLE 10 | Spearman's correlations between CCPPDQ and APDQ scores (convergent validity).

Variable	CCPPDQ	CCPPDQ	CCPPDQ
	Total score	Factor 1 score	Factor 2 score
APDQ Enjoyment score	0.40*	0.33*	0.41*
APDQ Security score	0.28*	0.22*	0.31*
APDQ Acceptance score	0.20*	0.16**	0.22*
APDQ Purpose score	0.22*	0.17**	0.25*
APDQ Enthusiasm score	0.20*	0.15**	0.22*
APDQ total score	0.38*	0.30*	0.41*

* $p < 0.001$.

** $p < 0.01$.

TABLE 11 | Gender differences in CCPPDQ scores.

Variable	W	p	Gender	N	Mean	SD	SE	Coef. of variation
CCPPDQ total score	11845.00	0.001	Male	103	37.56	10.25	1.01	0.27
			Female	187	33.43	9.72	0.71	0.29
CCPPDQ Factor 1	11352.50	0.012	Male	103	19.71	5.88	0.58	0.30
			Female	187	17.91	5.78	0.42	0.32
CCPPDQ Factor 2	12164.50	< 0.001	Male	103	5.25	1.15	0.52	0.29
			Female	187	4.69	4.69	0.34	0.30

TABLE 12 | Multiple regression analysis predicting CCPPDQ scores.

	Dependent variable: CCPPDQ total score						Dependent variable: Factor 1 score						Dependent variable: Factor 2 score					
	Unst.	SE	Stan.	t	p		Unst.	SE	Stan.	t	p		Unst.	SE	Stan.	t	p	
Intercept	7.40	3.82		1.94	0.05		5.83	2.36		2.47	0.01		1.58	0.30		55.12	<0.001	
Age	2.39	0.40	0.31	6.02	<0.001		1.15	0.25	0.26	4.68	<0.001		1.25	0.19	0.33	6.49	<0.001	1.03
Gender	−2.98	1.09		−2.73	0.007		−1.24	0.68		−1.84	0.07		−1.74	0.53		−3.30	0.001	1.04
APDQ total score	0.18	0.03	0.34	6.71	<0.001		0.08	0.02	0.27	4.94	<0.001		0.10	0.01	0.38	7.58	<0.001	1.00

manage the complex, often chaotic dynamics typical of personality disorders. This sense of security facilitates maintaining a reflective stance even in the face of challenging transference and countertransference experiences.

There are few validated instruments for measuring processes in psychodynamic therapy, and none assess confidence of the clinician. Most available measures are either disorder nonspecific or do not account for the distinctive theoretical and technical features of psychodynamic models (Ness et al. 2018; Rosenbaum et al. 1997). In this context, the CCPPDQ represents a novel contribution, offering a psychometrically sound and clinically grounded tool tailored to psychodynamic constructs applied in the treatment of PD. The CCPPDQ is a response to the long-standing call for more evidence-based instruments within psychoanalytic and psychodynamic frameworks, thereby helping bridge the gap between clinical practice and empirical research in this area.

The temporal stability indices showed moderate rank-order correlations (Spearman's rho) alongside excellent ICC. This apparent discrepancy reflects the different statistical assumptions underlying these indices. Whereas Spearman's rho captures rank-order stability across administrations, ICC estimates absolute agreement and is influenced by between-subject variability. In samples with substantial interindividual variance, ICC values may appear considerably higher than rank-based correlations. These findings suggest satisfactory temporal consistency of the CCPPDQ while also indicating the need for further studies explicitly designed to assess stability under conditions without intervening training effects.

This study has limitations that need to be acknowledged. First, the use of a convenience sample composed entirely of participants attending a TFP training may have introduced selection bias. These individuals may be particularly motivated or receptive to psychodynamic perspectives, possibly inflating confidence ratings due to expectation or social desirability bias. Second, the validation was conducted among a specific subset of mental health professionals—namely, psychiatrists and residents in psychiatry—who routinely work psychotherapeutically with patients diagnosed with PD in general clinical settings. Although this focus ensures relevance to clinicians who can directly deliver psychodynamic treatment, it may also limit the generalizability of the findings to other professional groups involved in the care of PD patients, such as psychiatric nurses, social workers, or other allied health professionals. Third, although the sample included participants from four different countries, the questionnaire was administered only in English and no formal cross-cultural validation or measurement invariance analysis was conducted. Therefore, the factor structure cannot yet be assumed to be invariant across national or cultural contexts. Future research should address linguistic adaptation procedures and multi-group CFA to establish configural, metric, and scalar invariance across different settings.

In summary, the CCPPDQ emerges as a valid instrument that captures clinically meaningful facets of confidence among professionals working with PD patients. Its subscales align with established theoretical constructs and clinician experience, supporting its utility for training evaluation, supervision, and

future research on psychotherapeutic processes. Future work should explore its predictive validity and sensitivity to clinical change.

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Ethics Statement

The study involved adult professionals voluntarily participating in educational settings. No patient data or sensitive clinical information were collected. Therefore, according to national and institutional guidelines (University of Modena and Reggio Emilia and Azienda USL-IRCCS di Reggio Emilia), the research did not require formal approval from an ethics committee.

Consent

The study did not involve patients, vulnerable populations, or personal health data.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author, Prof. Luca Pingani, upon reasonable request. Due to privacy considerations and professional confidentiality of participants, individual responses cannot be made publicly available.

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Supporting Information

Additional supporting information can be found online in the Supporting Information section. **Table S1:** Inter-item Spearman's rho correlation matrix for the 13 items of the Clinical Confidence with Personality Disorder Questionnaire (CCPPDQ) ($N = 314$).