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Factorial structure and measurement invariance of the Italian version of the Cooper – Norcross Inventory of Preferences (C-NIP)

Antonino La Tona[1] · Agostino Brugnera[1] · Laura Salerno[2] · Giorgio Angelo Tasca[3] · Silvia Carrara[1] · Gianluca Lo Coco[2] · Andrea Greco[1] · Mick Cooper[4] · John C. Norcross[5] · Angelo Compare[1]

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Abstract
There is increasing evidence that psychotherapy efficacy can be enhanced by accommodating clients' preferences regarding their role, the treatment, and the therapist. Several instruments are available to measure these concepts, although only the Cooper-Norcross Inventory of Preferences (C-NIP) appears particularly suitable for psychotherapy. This study aimed to validate the Italian version of the C-NIP and to provide norms for both clinical and research use for Italian-speaking individuals. We adopted a multi-step procedure to translate the C-NIP into Italian. Then, 1084 (70.3% females; M_{age} = 27.22 ± 11 years) Italian adults completed an online survey. Psychometric properties of both the original C-NIP and a revised, 15-item, five-scale version of this questionnaire were analysed through a Confirmatory Factor Analysis (CFA), McDonald's omega coefficients, mean inter-item correlations, measurement invariance, and Pearson correlations. The Italian translation of the original version of the C-NIP scales did not show good psychometric properties. However, the CFA on a revised factorial structure of the C-NIP evidenced adequate fit to the data. We found good support for the unidimensionality of all scales, but only one of the scales demonstrated an acceptable internal consistency. Measurement invariance was confirmed across both patient sex and across individuals who were and were not in psychotherapy. Results showed that the revised version of the C-NIP has satisfactory factorial structure for use with Italian adults. More research is needed to investigate how preferences vary over time and in relation to psychopathologies and client characteristics.

Keywords Patient preferences · C-NIP · Test adaptation · Psychotherapy

Introduction

The significant increase in research on client preferences in psychotherapy and their impact on treatment effectiveness is a result of the growing focus on personalized psychotherapy practices over recent years. Current research shows that psychotherapy tailored to clients' preferences reduces dropout from treatment and improves treatment outcome (Swift et al., 2018; Windle et al., 2020).

Client preferences can be defined as the environmental and relational conditions that patients would like accommodated during the course of therapy (Tompkins et al., 2013; La Tona et al., 2024). In their meta-analysis, Swift et al. (2018) defined three categories of client preferences: in-session therapeutic activities (e.g., homework, diaries), treatment methods, and therapist characteristics. Tailoring psychotherapy to each individual's preferences is an evidence-based practice that enhances the likelihood of treatment effectiveness (Swift et al., 2018). Indeed, guidelines for evidence-based practice in psychology explicitly recommend that treatment decisions should be made taking into account client preferences (APA, 2006). As such, preferences should be considered by every mental health professional in their daily work. In addition to its clinical significance, it also represents an ethical matter, encompassing fundamental

✉ Antonino La Tona
antonino.latona@unibg.it

[1] Department of Human and Social Sciences, University of Bergamo, P.le S. Agostino 2, Bergamo 24129, Italy

[2] Department of Psychology, Educational Science and Human Movement, University of Palermo, Palermo, Italy

[3] School of Psychology, University of Ottawa, Ottawa, Canada

[4] School of Psychology, University of Roehampton, London, UK

[5] Department of Psychology, University of Scranton, Scranton, USA

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principles such as respect for autonomy and informed decision-making. Therapists' flexibility, within reasonable bounds, and their capacity to adapt to each patient's wishes, are as crucial as understanding the circumstances and types of preferences that cannot be accommodated, using scientific evidence, professional competence, and ethical standards (Norcross & Cooper, 2021; La Tona et al., 2024).

Although it is possible to explore client preferences in an unstructured way at the beginning of therapy, or even in a preliminary conversation, the use of standardized self-report instruments provides a more reliable and accurate means of tracking preferences and placing them on a dimensional continuum (Norcross & Cooper, 2021; Swift et al., 2018; La Tona et al., 2024). Such measures also allow for the collection of data from a larger sample size, which can be used to draw more accurate conclusions about the population being studied (Norcross & Wampold, 2019).

There are several instruments designed to investigate clients' preferences in psychotherapy, such as the Psychotherapy Preferences and Experience Questionnaire (PEX; Frövenholt et al., 2007), the Preference for College Counseling Inventory (PCCI; Hatchett, 2015), and the Counseling Preference Form (CPF; Goates-Jones & Hill, 2008). All instruments also have limited evidence of reliability and validity. That is, apart from the Therapy Personalization Form (TPF; Bowens & Cooper, 2012), they have not been developed or validated for clinical settings. Finally, due to their overall length, clients may not complete them (McHorney, 1996).

Consequently, the development of the Cooper-Norcross Inventory of Preferences (C-NIP) represents a significant advance in providing mental health practitioners with a short, psychometrically-sound, effective preference instrument for clinical practice (Cooper & Norcross, 2016; La Tona et al., 2024). The authors of the C-NIP (Cooper & Norcross, 2016) started with the TPF, a literature review, and their clinical experience to produce items for the tool. The C-NIP consists of 18 items resulting from a principal component analysis that yielded four scales: Therapist-Directiveness versus Client-Directiveness, Emotional Intensity versus Emotional Reserve, Past Orientation versus Present Orientation, and Warm Support versus Focused Challenge. In the original validation study conducted on a sample of 860 clients receiving treatment from psychologists, psychotherapists, and counselors, all four scales showed satisfactory internal consistency, with coefficient alphas ranging from 0.60 to 0.85 (Cooper & Norcross, 2016; La Tona et al., 2024). The C-NIP intends to provide clinicians with an indication of strong client preferences, and has been translated into over ten languages, including German (Heinze et al., 2022), Portuguese (Malosso, 2019) and Chinese (She et al., 2023). Of note, Řiháček et al. (2023) pointed out that the four-factor model did not fit well with non-English translations, which is why they proposed a new five-factor model (with two correlated error variances), splitting the original factor Emotional Intensity into two new factors: EI-ER (Emotional Intensity vs. Emotional Reserve) and IM-NI (Immediacy-Non Immediacy) (La Tona et al., 2024). This subdivision seems reasonable from a clinical point of view, considering the differences in the nature and manner of working with emotional intensity and relational immediacy during therapy.

Factorial structures and internal reliability of any measure cannot be automatically generalized to other populations, such as those with a different language (Messick, 1989). Since there were no validated Italian questionnaires for assessing client preferences in psychotherapy, the translation of the C-NIP into this language and its subsequent validation may provide Italian mental health practitioners with a much-needed self-report instrument to assess preferences. Hence, the present study examined the psychometric properties of an Italian translation of the C-NIP. If found psychometrically sound, an Italian translation the C-NIP would provide a valid instrument (1) for the rapid evaluation of Italian client's preferences in clinical practice and (2) for future research on the mechanisms of preference accommodation in psychotherapy within the Italian context.

Specifically, in this study we examined the Italian version of the C-NIP for (i) construct validity of the four-factor (original) and five-factor (revised) structure through a Confirmatory Factor Analysis, (ii) adequate unidimensionality and internal consistency of the scales, and (iii) measurement invariance across patient sex and individuals who were and were not in psychotherapy. Previous findings suggested that sociodemographic variables are occasional predictors of preferences. Compared to male clients, female clients may prefer warmer support (Cooper et al., 2019) less targeted challenges (Cooper et al., 2019, Heinze et al., 2022), a greater focus on their childhood, and more encouragement to process strong emotions (Řiháček & Mikutová, 2022). We also tested whether being in or not in therapy altered preferences, taking into account that (i) there are rather large and systematic differences between what therapists and non-therapists want as clients, and that (ii) most clients do not have strong preferences, especially if they have never engaged in psychotherapy before (Norcross & Cooper, 2021). Finally, we will examine the association between the C-NIP and patient age. As pointed out by Heinze and colleagues (2022), participants' age may be associated with specific preferences; however, there is no clear evidence that sociodemographic variables play a crucial role in determining therapy preferences among Italian adults (La Tona et al., 2024).

Methods

Participants

Data were collected from 1084 adults (764 [70.5%] females; 320 [29.5%] males; mean age = 27.22 ± 11 years, range 18–66 years) who volunteered for the study. Inclusion criteria included being at least 18 years of age and proficient in spoken and written Italian. Participants were native Italian speakers (i) recruited from two undergraduate courses at the University of Bergamo (Italy; ~70% of the sample) and (ii) self-referred from the general population (~30% of the sample). Among the participants, 16.8% had a university degree, and 78.9% completed high school. About a quarter of the participants (26.0%) were currently in psychotherapy (median treatment length = 15 months; mean: 26.99 ± 31.96 months) and an additional 14.8% were thinking of starting treatment in the next few months.

The study was conducted in accordance with ethical standards for the treatment of human research participants (World Medical Association, 2013). Prior to the study, participants completed an online informed consent and were redirected to an anonymous webpage which outlined the aims of the study and provided contact information for the researchers. The study was approved by the local ethics committee (Project approval code: 2024_11_03).

Procedure

We adopted the procedure proposed by Beaton et al. (2000) for the translation of the C-NIP starting from the original English version. In the first step, two bilingual native Italian speaking translators (one of whom was a doctoral student in Clinical Psychology, familiar with the topic of client preferences in psychotherapy) independently performed a translation. In the second step, the two translators and the research team discussed and summarized the translations to generate one version. In the third step, starting from the latter and blind to the original version, two bilingual native English-speaking translators reverse translated the C-NIP from Italian to English. Both reverse translators were unaware of the purpose of the study and had no training in psychology. Finally, the research team, through a series of focus groups, discussed and developed the final version of the questionnaire in Italian.

Data were collected from March to September 2018 through an anonymous online survey (which included demographic information, together with the C-NIP). Students were requested to forward the invitation to participate in this study to between one and five of their contacts. A total 300 students volunteered to complete the questionnaires and forwarded the survey to another 784 participants, for a total of 1084 individuals.

Personal information (e.g., IP address) was collected to ensure that each participant did not complete the survey more than once but was subsequently deleted when the data collection was completed. The completion time of the survey was about 10–15 min.

Measures

The Cooper-Norcross Inventory of Preferences (C-NIP; Cooper & Norcross, 2016) is an 18-item, self-report measure of adult client preferences for psychotherapy, in which respondents indicate their preferences for how a psychotherapist or counsellor would ideally work with them. The C-NIP assesses four dimensions of client preferences, namely, Client Directiveness vs. Therapist Directiveness (5 items), Emotional Intensity vs. Emotional Reserve (5 items), Past Orientation vs. Present Orientation (3 items), and Warm Support vs. Focused Challenge (5 items). Items are scored on a 7-point Likert scale (from −3 to 3) with 0 indicating no or equal preferences and scores at the extremes indicating a strong preference for one aspect of the dimension. In the original version of the scale (1.0, the version examined in this study) four items (i.e., 5, 10, 13 and 14) are also negatively worded and reversed before computing the scale scores. In a subsequent version of C-NIP (i.e., the C-NIP 1.1), all items are positively worded, with "+3" representing the highest rating on the left side of the Likert scale and "−3" representing the lowest rating on the right.

The measure also includes 11 open-ended questions on activity and therapist preferences, which were not administered in this study. The original version of the scale evidenced fair to good internal consistencies (Therapist-Directiveness versus Client-Directiveness, $\alpha = 0.84$; Emotional Intensity versus Emotional Reserve, $\alpha = 0.67$; Past Orientation versus Present Orientation, $\alpha = 73$; and Warm Support versus Focused Challenge, $\alpha = 0.60$; Cooper & Norcross, 2016). For the complete questionnaire and for instructions concerning scoring, please see www.c-nip.net.

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Statistical analysis

Preliminary analyses were conducted to check for univariate normality of the C-NIP items as well as univariate and multivariate outliers. The presence of univariate and multivariate outliers was assessed using standardised scores and Mahalanobis distance, respectively (Tabachnick & Fidell,

2019). A Confirmatory Factor Analysis (CFA) with robust maximum likelihood estimation was conducted to evaluate the structural validity of the original version of the C-NIP, as well as its revised factorial structure as proposed by Řiháček et al. (2023). Our criteria for a fair model fit included a root mean square error of approximation (RMSEA) of 0.08 or less, an RMSEA upper 90% confidence interval bound of 0.10 or less, a comparative fix index (CFI) and a Tucker-Lewis (TLI) of 0.90 or more, and a standardized root mean squared residual (SRMR) of 0.05 or less (Bentler, 1990). Finally, we adopted a cut-off of > |0.30| to select significant factor loadings (Thurstone, 1947).

Mean inter-item correlations (Clark & Watson, 2019) and McDonald's model-based composite reliability coefficients (i.e. McDonald's Omega, ω; McDonald, 1970) were used to assess unidimensionality and internal consistency of the C-NIP scales, respectively. A mean inter-item correlation between 0.15 and 0.50 is indicative of a good homogeneity or unidimensionality of a scale (i.e., the degree to which items assess a single underlying construct; Clark & Watson, 2019), while an omega of at least 0.70 indicate good internal consistency of a scale (i.e. the degree to which items are intercorrelated; Dunn et al., 2014). Given that reliability coefficients (e.g., McDonald's Omega) may underestimate the internal consistency of scales with very few items (such as the C-NIP), in this study we primarily focused on the homogeneity of scale items (i.e., the mean inter-item correlation which is not affected by scale length), an indicator of how strongly the items represent a single construct (Clark & Watson, 2019).

As a follow-up analysis, we evaluated multi-group measurement invariance across participants who were in psychotherapy (or about to be in psychotherapy; $n=237$) and those who were not in psychotherapy (or never were in psychotherapy; $n=683$), as well across client sex (females, $n=764$; males, $n=320$). We employed a multi-step method for determining model fit. First, the model fit for each group was separately assessed. Second, several levels of group invariance (i.e. M0 - configural invariance; M1 - metric invariance; M2 - scalar invariance) were tested (Cheung & Rensvold, 2002). Changes in CFI, RMSEA, and SRMR were examined, and ΔCFI > 0.010, ΔRMSEA > 0.015, and ΔSRMR > 0.030 were considered indicators of meaningful differences across groups (Chen, 2007).

We examined whether preferences differed depending on participant sociodemographic characteristics (i.e., age, psychotherapy status and sex) through independent sample *t*-tests or Pearson correlation coefficients. We computed and interpreted all effect sizes (r, d, η^2) according to established guidelines (Cohen, 1988). Statistical analyses were carried out using MPLUS version 8.4 and Statistical Package for Social Sciences (SPSS) version 29.0.1. Further, all *p*-values were corrected through the Benjamini-Hochberg procedure for False Discovery Rates (1995). All statistical tests were two-tailed, and statistical significance was set at *p*-value of 0.05.

Results

Preliminary analyses

Prior to data analyses, the negatively scored items (i.e., items 5, 10, 13 and 14) were reversed for ease of interpretation. Items 3, 6 and 7 were moderately negatively skewed, and so we reflected and log-transformed the data to correct the violation of the assumption of univariate normality (Tabachnick & Fidell, 2019). There were no univariate outliers, however, we identified 29 multivariate outliers, which were removed before running CFAs in accordance with guidelines (Tabachnick & Fidell, 2019). We tested for potential sociodemographic predictors of being an outlier through a logistic regression, and those results have been reported in the Supplementary Online Tables. Descriptive statistics for each C-NIP item are provided in Table 1.

Construct validity and internal consistency

The CFA on the original factor structure of the C-NIP evidenced a poor fit to the data ($N=1055$): χ^2 (129) = 785.334; RMSEA = 0.070 (90% CI: 0.065–0.074); CFI = 0.741; TLI = 0.693; SRMR = 0.068. Further, the factorial loadings of Items 5, 7, 8 and 10 were below the suggested cut-off (see Fig. 1, Panel A for detailed results).

We then tested the factorial solution of the revised version of the C-NIP proposed by Řiháček and colleagues (2023), which evidenced a fair fit to the data ($N=1055$): χ^2 (79) = 295.508; RMSEA = 0.051 (90% CI: 0.045–0.057); CFI = 0.900; TLI = 0.867; SRMR = 0.046, according to three of four fit indices. Item 2 had a low factorial saturation with its latent factor (see Fig. 1, Panel B for detailed results). Nonetheless, we adopted this factorial solution for all the remaining analyses. As evidenced in Table 2, some of the scales were significantly correlated with each other, but all effects were trivial to small.

The scales of the revised Italian version of the C-NIP demonstrated poor to fair internal consistency, but good homogeneity (Clark & Watson, 2019; Dunn et al., 2014). The McDonald's Omega (ω) was 0.54, and the mean inter-item correlation was 0.22 for the Therapist Directiveness vs. Client Directiveness (inter-item r ranges: 0.14 −0.34). An ω of 0.65 and a mean inter-item correlation of 0.48 was found for Emotional Intensity vs. Emotional Reserve; the

Table 1 Descriptive statistics of the C-NIP (Cooper & Norcross, 2016) in our sample of italian-speaking participants ($N = 1084$)

Items	Mean	SD	Min	Max	Asymmetry	Kurtosis
'I would like the therapist to…' *[Vorrei che il terapeuta…]*						
Therapist Directiveness vs. Client Directiveness						
1. Focus on specific goals *[Si focalizzasse su obiettivi specifici]*	1.48	1.37	−3	3	−0.980	0.934
2. Give structure to the therapy *[Desse una struttura alla terapia]*	1.10	1.73	−3	3	−0.802	−0.158
3. Teach me skills to deal with my problems *[Mi insegnasse delle competenze per gestire i miei problemi]*	2.40	0.90	−3	3	−1.813	3.848
4. Give me 'homework' to do *[Mi desse da fare dei 'compiti per casa']*	0.37	1.79	−3	3	−0.392	−0.624
5. Allow me to take a lead in therapy *Mi lasciasse assumere un ruolo guida nella terapia]*	0.50	1.64	−3	3	−0.312	−0.608
Emotional Intensity vs. Emotional Reserve						
6. Encourage me to go into difficult emotions *[Mi incoraggiasse ad esplorare emozioni difficili]*	2.14	1.18	−3	3	−1.701	3.169
7. Talk with me about the therapy relationship *[Parlasse con me della relazione terapeutica]*	1.88	1.36	−3	3	−1.345	1.610
8. Focus on the relationship between us *[Si focalizzasse sulla relazione tra noi]*	0.32	1.69	−3	3	−0.338	−0.532
9. Encourage me to express strong feelings *[Mi incoraggiasse ad esprimere emozioni forti]*	1.60	1.32	−3	3	−0.895	0.557
10. Focus mainly on my thoughts *[Si focalizzasse principalmente sui miei pensieri]*	0.30	1.67	−3	3	−0.122	−0.474
Past Orientation vs. Present Orientation						
11. Focus on my life in the past *[Si focalizzasse sul passato della mia vita]*	−0.49	1.72	−3	3	0.183	−0.675
12. Help me reflect on my childhood *[Mi aiutasse a riflettere sulla mia infanzia]*	−0.64	1.85	−3	3	0.327	−0.823
13. Focus on my future *[Si focalizzasse sul futuro]*	−0.79	1.59	−3	3	0.347	−0.391
Warm Support vs. Focused Challenge						
14. Be challenging *[Mi mettesse alla prova]*	−0.64	1.87	−3	3	0.451	−0.754
15. Be supportive *[Mi fosse di supporto]*	0.74	1.72	−3	3	−0.377	−0.677
16. Not interrupt me *[Non mi interrompesse]*	−0.07	1.74	−3	3	0.080	−0.718
17. Be challenging of my own beliefs and views *[Mettesse alla prova le mie convinzioni e credenze]*	−1.39	1.53	−3	3	0.873	0.198
18. Support my behaviour unconditionally *[Supportasse i miei comportamenti incondizionatamente]*	−1.15	1.58	−3	3	0.675	−0.206

Note. The C-NIP is in the public domain for individual users under the license CC BY-NC-ND 4.0. (http://creativecommons.org/licenses/by-nc-nd/4.0/)

Immediacy vs. Non-Immediacy scale had an ω of 0.54 and a mean inter-item correlation of 0.37. Finally, we found an ω of 0.78 and a mean inter-item correlation of 0.49 for Past Orientation vs. Present Orientation (inter-item r ranges: 0.32 −0.70), and an ω of 0.57 and a mean inter-item correlation of 0.24 for Warm Support vs. Focused Challenge (inter-item r ranges: 0.14 −0.35). Most of the omega values were below 0.70, but all of the mean inter-item correlations fell within the suggested range (Clark & Watson, 2019).

Measurement invariance across involvement in psychotherapy and client sex

The five-factor model had a fair fit both for participants who were in psychotherapy (or about to be in psychotherapy) and those who were not in psychotherapy (or never were in psychotherapy; see Table 3 for detailed results). The factorial weights of item 2 were below the suggested cut-offs in both groups, while those of item 16

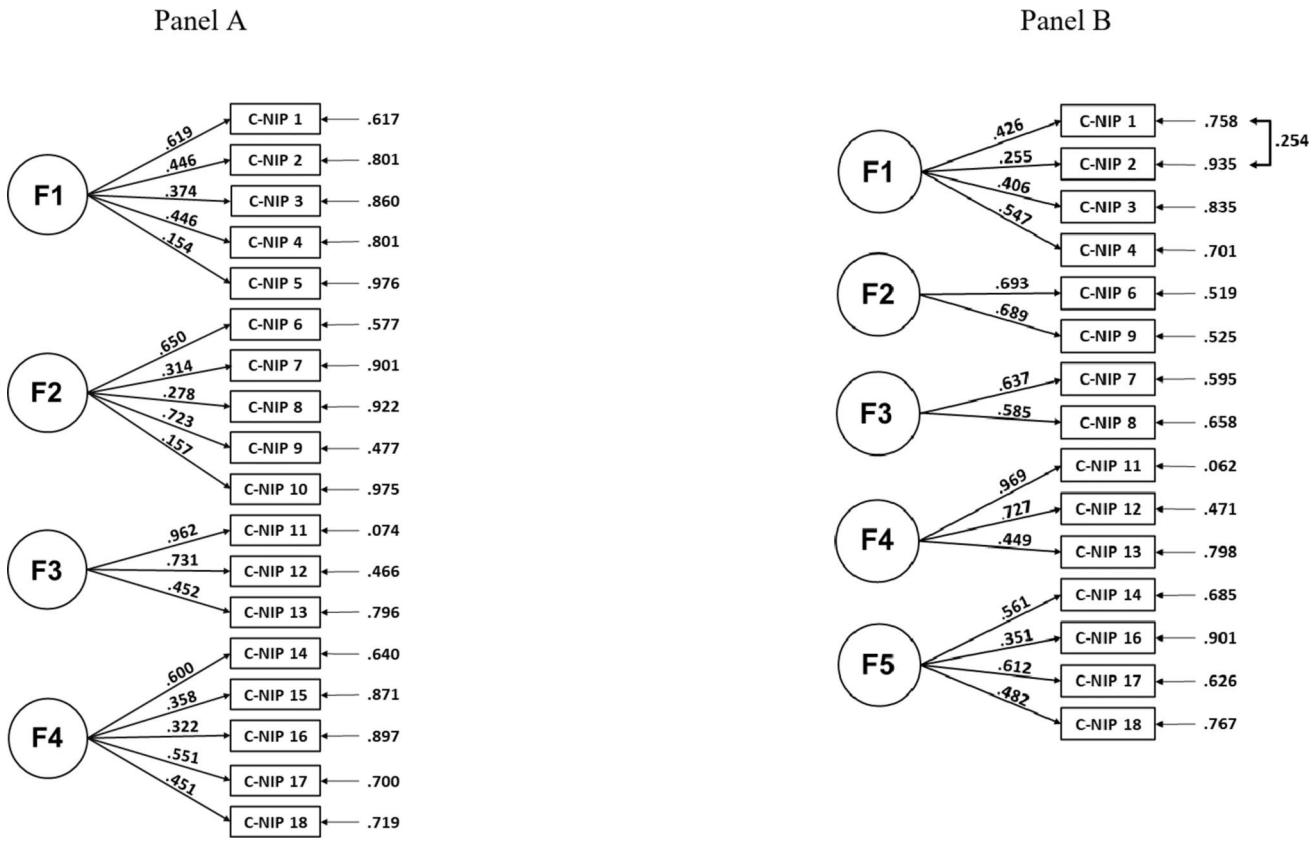

Fig. 1 Standardized betas and residuals of the original (Panel A) and revised (Panel B) version of the C-NIP, in our sample of Italian-speaking participants ($n = 1055$). *Note.* In the original model (Panel A), F1 = Therapist Directiveness vs. Client Directiveness; F2 = Emotional Intensity vs. Emotional Reserve; F3 = Past Orientation vs. Present Orientation; F4 = Warm Support vs. Focused Challenge. In the revised model (Panel B), F1 = Therapist Directiveness vs. Client Directiveness; F2 = Emotional Intensity vs. Emotional Reserve; F3 = Immediacy vs. Non Immediacy; F4 = Past Orientation vs. Present Orientation; F5 = Warm Support vs. Focused Challenge

Table 2 Means, Standard Deviations, and zero-order Correlation among the revised C-NIP Scales ($n = 1055$)

		Pearson's *r* correlation coefficients			
Variable	Mean (SD)	1.	2.	3.	4.
1. C-NIP Therapist Directiveness vs. Client Directiveness	1.356 (0.921)	\			
2. C-NIP Emotional Intensity vs. Emotional Reserve	1.915 (0.998)	.263**	\		
3. C-NIP Immediacy vs. Non Immediacy	1.127 (1.226)	.179**	.233**	\	
4. C-NIP Past Orientation vs. Present Orientation	-0.617 (1.389)	.028	.067*	.055	\
5. C-NIP Warm Support vs. Focused Challenge	-0.820 (1.091)	-.113**	-.209**	.004	.106**

Note. all *p*-values were still significant (* <.05; ** <.01) after Benjamini-Hochberg procedure for False Discovery Rates

only among those not in psychotherapy. As for configural invariance, which postulates equivalent patterns of factor structure and loadings, it indicated a fair fit across indices. Metric invariance, which postulates equivalent item loadings across groups, indicated a fair fit to the data. The $\Delta\chi^2$ was not significant and the deterioration in model fit compared with the configural model fell within the change criteria recommended for RMSEA, SRMR and CFI (Chen, 2007). The scalar invariance, which postulates equal item intercepts across the two groups, indicated a good fit to the data. Specifically, the $\Delta\chi^2$ was not significant, and the deterioration in model fit fell within the change criteria recommended for RMSEA, SRMR and CFI.

As for the multigroup analyses across client sex, the CFI in both groups as well as for the configural, metric and scalar models was below the suggested cut-off, while the other indices (RMSEA and SRMR) fit the data well. The factorial weights of item 2 were below the suggested cut-offs in both groups, while those of item 16 or only among females. The measurement invariance of the five-factor solution was supported at all levels for sex, with the $\Delta\chi^2$ being not significant -except for scalar invariance-, and

Table 3 C-NIP five-factor model invariance across participants who were in psychotherapy (or about to be in psychotherapy; $n = 237$) and those who were never in psychotherapy; $n = 683$), and across sex (males, $n = 320$; females, $n = 764$)

	χ^2	df	RMSEA (90% CI)	SRMR	CFI	Model comparison	$\Delta\chi^2$	Δdf	ΔRMSEA	ΔSRMR	ΔCFI
Participants never in psychotherapy	209.141	79	.049 (.041 -.057)	.048	.906	-	-	-	-	-	-
Participants in psychotherapy	123.347	80*	.048 (.030 -.064)	.059	.909	-	-	-	-	-	-
M0– configural invariance	337.021	159	.049 (.042 -.057)	.051	.906	-	-	-	-	-	-
M1– metric invariance	338.937	169	.047 (.040 -.054)	.052	.910	M1-M0	1.916	10	.002	.001	.004
M2– scalar invariance	345.586	179	.045 (.038 -.052)	.052	.912	M2-M1	6.649	10	.002	.000	.002
Males	168.326	79	.060 (.047 -.072)	.057	.885	-	-	-	-	-	-
Females	231.330	80*	.051 (.043 -.058)	.049	.889	-	-	-	-	-	-
M0– configural invariance	379.913	160*	.051 (.044 -.058)	.052	.897	-	-	-	-	-	-
M1– metric invariance	395.555	170*	.050 (.044 -.057)	.054	.895	M1-M0	15.642	10	-.001	.002	-.002
M2– scalar invariance	416.853	180*	.050 (.044 -.056)	.055	.889	M2-M1	21.298**	10	.000	.001	-.006

Note. df = degree of freedom; RMSEA = Root-mean-square error of approximation; SRMR = Standardised Root Mean Squared Residuals; CFI = Comparative Fit Index. * In these models (CFA of participants in psychotherapy; CFA in females; multigroup analyses across sex). the residual variance of Item 11 was set close to zero for model estimation reasons. ** significant $\Delta\chi^2$

the deterioration in model fit falling within the change criteria recommended for RMSEA, SRMR and CFI in all comparisons (see Table 3 for detailed results). Factor loadings of all items in each group are presented in Supplementary Tables S2 and S3.

In contrast to clients who were in psychotherapy, participants who were not in psychotherapy showed a higher preference toward emotional reserve, but this effect was small. Further, Women were more inclined toward Client directiveness, Non Immediacy, and Emotional Reserve than men. However, men had stronger preferences toward Past Orientation and Warm Support than women. All effects were trivial to small in size. The detailed results of the *t*-tests, as well as means and standard deviations of the revised C-NIP scales for all groups are reported in Supplementary Tables S4 and S5.

Association with sociodemographic variables

All correlations between the revised C-NIP subscales and client age were non-significant (see Supplementary Table S6 for detailed results).

Discussion

The present study aimed to test the factorial structure and measurement invariance of an Italian translation of the Cooper-Norcross Inventory of Preferences, a measure of clients' preferences in psychotherapy (Cooper & Norcross, 2016). The instrument, already translated into multiple languages, had not yet been translated and validated for the Italian context. Results supported an adequate internal validity of the revised Italian version of the C-NIP and provided mixed evidence of internal consistency (with cut-off criteria met by only one scale) but good support for an adequate homogeneity (with cut-off criteria met by all 5 scales). Further, multi-group analyses suggested the factor structure of the scale was similar between participants of both sexes and those who were currently in therapy vs. those who were not, providing additional support for the validity of this measure.

Several of our results were contrary to those of the C-NIP validations in other languages, such as Chinese and Turkish (Özer & Yalçin, 2021; She et al., 2023) that replicated the original four-factor model of the C-NIP. Our findings evidenced that only the revised factorial structure (Řiháček et al., 2023) of the questionnaire fit the data. The factorial structure of the C-NIP was also revised within the Portuguese, German, and French validation studies (Malosso, 2019; Heinze et al., 2022; Volders, 2021), suggesting that the original factorial structure of this measure may not perform adequately well in some non-English samples (Řiháček et al., 2023). Indeed, the authors of the German version of the instrument (Heinze et al., 2022) argued that in the original validation of the C-NIP (Cooper & Norcross, 2016), final items were extracted from a pool of 40 items, and this may have led to sample specific factorial loadings that could not be replicated in other languages. In addition, Heinze et al. (2022) pointed out that the different demographic characteristics of samples and other cultural differences were possible causes of the low fit to the data (Heinze et al., 2022).

Overall, the validity of the revised five-factor structure of the Italian Cooper-Norcross Inventory showed promising results, but there is still room for improvement. As shown in Fig.1, Panel B, item 2 presented low loadings (i.e., <|0.30|) with its main factor, especially when correlating the errors of items 1 and 2. The low loadings of item 2 *(Give structure*

to the therapy) could be because it describes a general therapeutic process, in contrast to other items (1, 3, 4) of the corresponding factor F1 (Therapist Directiveness vs. Client Directiveness) that deal with more specific aspects of therapy (e.g., teaching of skills and delivery of 'homework').

In the original factorial structure, four items presented unsatisfactory factorial weights (items 5, 7, 8 and 10; see Fig. 1, Panel A). Item 5 (*Allow me to take the initiative in therapy*, part of the Therapist's Directiveness vs. Client's Directiveness scale), focuses on the client's role in the management/leadership of therapy rather than on the specific goals and structure of therapy (e.g., tasks assigned by the therapist and specific coping skills). Therefore, item 5 may be less associated with the latent factor.

A similar reasoning can be made for items 7 (*Tell me about the therapeutic relationship*) and 8 (*Focus on the relationship between us*), both part of the Emotional Intensity vs. Emotional Reserve scale, which focus more on the therapeutic relationship than on emotions. Item 10 (*I would like the therapist to focus mainly on my feelings rather than my thoughts*, part of the Emotional Intensity vs. Emotional Reserve scale) also showed little association with the latent factor. The latter result is similar to previous C-NIP validation studies (Volders, 2021; Řiháček & Mikutová, 2022).

The findings about those items that had very low factor loadings in the first CFA led us to test the revised five-factor model proposed by Řiháček et al., (2023). In the new model, items 5, 10, and 15 were eliminated due to their low factorial loadings, while items 7 and 8 which focused on the therapeutic relationship, were considered part of a new factor named "Immediacy vs. Non Immediacy" (I-NI). This makes sense from a clinical and psychometric point of view, since the therapeutic relationship (discussing it/focusing on it, or avoiding it) and the expression of strong and difficult emotions, or their avoidance, may have independent relevance for therapy.

Interestingly, the scales evidenced few significant intercorrelations (see Table 2) which were trivial to small. That is, the scales from the Italian version of the C-NIP were independent from each other.

Results regarding internal consistency and homogeneity of scales were inconsistent. McDonald's Omegas (ω) of each C-NIP's scale scores ranged from 0.54 to 0.78, thus demonstrating poor to good internal consistency (Dunn et al., 2014). However, the mean inter-item correlations of all of the Italian's C-NIP scales were in the good range (0.22 − 0.49) suggesting that their homogeneity, or the degree to which items assess a single underlying construct, was adequate (Clark & Watson, 2019). Clark and Watson (2019) further argued that the optimal values of mean inter-item correlations are a function of the generality versus specificity of the target construct. Broader constructs should have a mean correlation in the lower end of the 0.15–0.50 range, and narrower constructs that should have a mean value falling within the higher end of the range. From this point of view, our results suggest that two C-NIP scales (Therapist Directiveness vs. Client Directiveness, and Warm Support vs. Focused Challenge) reflect broader constructs, while the remaining others seem to reflect narrower ones. Overall, our results are in line with those of Řiháček et al. (2023) who compared different versions of C-NIP (English, French, Turkish, Chinese, German, Portuguese, Czech) in which the internal reliability of the factor scores varied between samples and was often lower than the suggested cut-offs. The French version failed to reach a coefficient alpha value of 0.60 in four out of five scales. These findings could be a consequence of coefficient alpha being sensitive to the small number of items per factor. Importantly, the C-NIP was designed and developed to be practical, brief, and functional preferring clinical utility over psychometric rigor (Cooper & Norcross, 2016). The addition of new items would probably improve internal consistency but may be less practical for clinical use.

In contrast to Heinze and colleagues (2022), our results showed no significant correlations between age and any of the five subscales of the revised C-NIP. As for measurement invariance across individuals who were and were not in psychotherapy, the multi group analysis evidenced that the revised five-factor model was a good fit for both groups, and that the measure showed configural, metric and scalar invariance across these two populations. This finding adds to the literature on preferences, suggesting that the latent structure of the C-NIP is similar among both clients and individuals not in treatment.

Unlike clients in psychotherapy, participants who were not in psychotherapy showed a greater preference for Emotional Reserve, but this effect was small. No other significant differences emerged between the two groups on the remaining C-NIP scales. This result is partially in line with Řiháček & Mikutová's (2022), who reported that people with different levels of experience in psychotherapy tend to differ in their preferences. The authors hypothesised that the psychotherapeutic experience changes clients' expectations and preferences to some extent. Those in therapy are likely to adopt a constructive and respectful attitude towards their own emotional experience, being better able to explore and determine the path of change (due to the therapeutic work they undergo) and therefore may be more likely to be emotionally open.

We also found support for the measurement invariance of the revised five-factor model of the C-NIP across sex. Post-hoc comparisons suggested that women were more inclined toward Client Directiveness, Non-Immediacy and Emotional Reserve than men. Men, on the other

hand, showed a greater preference for Past Orientation and Warm Support of the therapy and the therapist. These findings differed from those reported in previous studies (Řiháček & Mikutová, 2022; Heinze et al., 2022). For example, Cooper and colleagues (2021) found that female participants showed a greater preference for Warm Support over Focused Challenge than males. Our results are inconsistent with theories about social role differences between the sexes (e.g., Eagly & Wood, 2016), according to which men are expected to act more dominantly and to be more independent than women (Koenig, 2018). If replicated, our findings on the effect of sex on specific preferences in psychotherapy may be informative for clinical practice, particularly in an Italian context.

One of the main strengths of the present study is the large sample size, which rendered the results highly reliable. However, some limitations can also be noted. We did not investigate whether the presence of mental disorders or sub-clinical symptoms in the sample (e.g., anxiety and depression) were related to expressed preferences (Tait et al., 2022). In addition, we did not collect additional sociodemographic variables (e.g., ethnicity) that could have significantly predicted treatment preferences (Heinze et al., 2022). Young women with secondary education were over-represented in our sample, and this may limit the generalizability of our results to men, older people and those with a lower education. Finally, we did not administer additional questionnaires to test for the construct validity of the C-NIP. Nonetheless, when this research was carried out, there were no measures of preferences validated in Italian, thus limiting the possibility to test at least for convergent validity.

Based on the results, we may consider the Italian translation of the revised version of C-NIP a promising instrument for use with an Italian clinical population. The Italian C-NIP may foster the clients' process of change in multiple ways by lower drop-out rates, enhanced working alliance, and the adoption of an active stance by the client. Moreover, combining the Italian version of C-NIP with routine outcome monitoring (ROM) tools may enhance the effectiveness of therapy interventions (Mahon, 2021; La Tona et al., 2024). In this regard, Cooper et al. (2021) suggested that different preferences may be suitable for different times in therapy or stages of treatment (La Tona et al., 2024).

Further investigation is warranted in the use of the C-NIP in various psychotherapy approaches and for different client characteristics. (Mahon, 2021; Tait et al., 2022; La Tona et al., 2024). Future studies might focus on how clients' preferences evolve during the therapeutic process. For example, a longitudinal study of client preferences could shed light on the importance of the variability of preferences across the course of psychotherapy. Such information could provide therapists with a guide to being optimally responsive to evolving client preferences. Engagement with client preferences has been described as an 'ethical imperative' (Norcross & Cooper, 2021) but further studies will be needed to test the revised C-NIP, especially in the Italian context. In this regard, the availability of C-NIP in several languages (including Italian), may help mental health practitioners, researchers as well as healthcare providers to adapt treatments to the preferences of clients through an easy-to-use self-report instrument.

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Author contributions JNC, AC and MC worked on the original idea and carried out the detailed conceptualization and investigation of this research. ALT, GLC, AB, and MC finalised the methodology. ALT AB, AC, AG and AGT carried out the data collection. AB, AG, and LS carried out data analysis and wrote the results section. ALT, AB, SC and AC carried out the write-up of this project, including the writing of the original draft. GAT, GLC, MC, JCN and AC supervised the work during each step. The authors declare that there are no potential conflicts of interest concerning the research, authorship, and/or publication of this article.

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Data availability : (a) data, (b) code, (c) materials associated with the present study are available upon reasonable request of interested researchers.

Declarations

Ethics declarations Participants voluntarily filled out an online and completely anonymous survey (which included demographic information, in addition to a battery of questionnaires). After providing informed consent, participants were redirected to a webpage that outlined the purposes of the research and provided the researchers' contact information. The study was conducted in accordance with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The Ethical Committee of the University of Bergamo approved all materials and procedures (Project approval code: 2024_11_03).

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