

Who Seeks Alternative Psychotherapies? Domain-Specific Predictors and Latent Profiles



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Techniques presented as psychotherapies without evidence for effective treatment constitute a long-standing and under-researched issue within clinical psychology. We report on an exploratory study using a cross-sectional sample ($N = 538$) to find predictors and profiles of use of Complementary and Alternative Psychotherapies (CAP). Five well-established constructs were assessed: help-seeking preferences, psychiatric scepticism, mental health literacy, psychological mindedness, and psychotherapy expectancy. Religiosity, help-seeking, distrust in mental health care, interest in psychological phenomena, expectations of relationship with the psychotherapist, and belief in the effectiveness of alternative psychotherapies positively predicted use of CAP. Parallel analyses of evidence-based psychotherapies and alternative medicine revealed that some of these predictors are specific to CAP. Latent profile analysis identified three profiles among users of alternative psychotherapies, conceptualized as *religious*, *unmotivated*, and *analytical*. We discuss our results in relation to these profiles, suggesting various implications and lines of research.

Key words: alternative psychotherapies, alternative medicine, CAM, evidence-based practice, pseudoscience

The APA defines evidence-based practice in psychology as “the integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences” (APA, 2006, p. 273). Nevertheless, many psychotherapies have not demonstrated their effectiveness in clin-

ical settings (Duncan & Reese, 2012; Marcus, O’Connell, Norris, & Sawaqdeh, 2014), which constitutes a long-standing and potentially harmful problem for mental health care (Lilienfeld, Lynn, & Lohr, 2013). Despite the publication of evidence-based guidelines to facilitate the distinction between science

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and pseudoscience (Hollon, Arean, Craske, Crawford, Kivlahan, Magnavita, et al., 2014; Lee & Hunsley, 2015), a central question is still unresolved: Why do some patients prefer alternative psychotherapies instead of evidence-based interventions?

Considering levels I (randomized clinical trials) and II (quasi-experimental designs such as prospective studies and nonrandomized clinical trials) as a threshold of acceptable evidence (Burns, Rohrich, & Chung, 2011), Fasce and Adrián-Ventura (2020) define Complementary and Alternative Psychotherapies (CAP), as *all techniques presented as psychotherapies without evidence for effective treatment*. CAP status may vary over time, as future research outcomes could potentially back up psychotherapies that currently must be considered as alternative techniques, and, as it is not the same to be invalidated as to be unvalidated (Westen & Morrison, 2001), many of them have not been sufficiently studied. Among these alternative psychotherapies are family constellations, rebirthing, transpersonal psychology, neuro-linguistic programming, characteroanalytic vegetotherapy, emotional freedom techniques, long-term psychoanalysis, thought field therapy, energy psychology, psychodrama, hypnotic regression, psychomagic, and primal therapy (for a review see Mercer, 2014).

Despite well-documented negative effects of alternative psychotherapies, which often goes beyond deterioration of target symptoms (Lilienfeld, 2007), no specific information is available on predictors, profiles, and usage rate of CAP among mental health patients. In Hansen and Kristoffersen (2016) the rates of visits to Complementary and Alternative Medicine (CAM) providers stands at 17.8% for anxiety and depression (23.9% for severe cases), while in Spinks and Hollingsworth (2012) the rate stands at 41.8% for those with a chronic mental health condition. Fur-

thermore, an extensive study in 25 countries found that these rates are higher in high-income countries and among patients with severe symptomatology (deJonge, Wardeenaar, Hoenders, Evans-Lacko, Kovess-Masfety, Aguilar-Gaxiola, Al-Hamzawi, et al., 2018).

Selection of Independent Variables

The reported study aimed at exploring CAP users' psychological profile, through the assessment of well-established constructs reflecting attitudes toward mental health care: help-seeking preferences, psychiatric skepticism, mental health literacy, psychological mindedness, and expectations regarding therapeutic relationship. The selection of these variables is based on the consistent associations between related measures and CAM – for example, positive associations between distrust of conventional medicine and CAM usage and attitudes (Hornsey, Lobera, & Díaz-Catalán, 2020), between above average health literacy and CAM usage (Gardiner, Mitchell, Filippelli, Sadiikova, White, Paasche-Orlow, & Jack, 2013), and between CAM usage and heterodox health-related conceptions such as belief in “holistic” health and equality between doctor and patient during decision-making (Bishop, Yardley, & Lewith, 2005), as well as negative association between analytical thinking and CAM usage (Galbraith, Moss, Galbraith, & Purewal, 2018). However, it should be noted that, in this study, we administered mental health-specific scales assessing constructs such as help-seeking (for emotional problems), trust in science (psychiatric skepticism), scientific literacy (mental health literacy), analytical thinking (psychological mindedness), and treatment expectancy (psychotherapy expectancy), so the associations of CAM should not necessarily be replicated and differences between CAP and CAM could emerge.

Regarding psychological mindedness, as this construct “is best conceptualized as a form of metacognition: a predisposition to engage in metacognitive acts of inquiry into how and why people behave, think, and feel in the way that they do” (Grant, 2001), it can be seen as a psychology-specific manifestation of analytical thinking. Results on the relationship between psychological mindedness and constructs typically associated with analytical thinking such as the openness to experience personality factor and cognitive tasks can be found in Beitel and Cecero (2003), and LeBoutillier and Barry (2018).

Materials and Methods

Sample

We recruited a sample of 538 Spanish speakers and administered the measures used in the study online. The respondents were invited to participate using Facebook and Twitter, through forums and groups on alternative psychotherapies. To increase the sample’s variability, we also counted on the help of online disseminators of evidence-based psychology (e.g., clinicians and science journalists), who kindly invited their followers to participate in the study. All respondents participated on a voluntary basis and gave their informed consent prior to their inclusion in the study. 466 were women and 72 were men, with a mean age of 37.50 years ($SD = 8.70$). 36 participants received secondary education, 71 received superior non-university education, and 431 took university courses. Regarding Religiosity, 47 self-identified as practicing religious, 135 as non-practicing religious, 126 as agnostic, and 230 as atheists. Participants’ Political Orientation was assessed using a 10-point Likert scale representing the left-wing/right-wing axis (1 = extremely left-wing, 10 = extremely right-wing; $M = 3.69$, $SD = 1.98$; skewness = 0.77, kurtosis = 0.29).

Measures

Mental Health Literacy. We used a revised version of the Mental Health Literacy Scale (e.g., “to what extent do you think it is likely that Personality Disorders are a category of mental illness?” and “I am confident that I know where to seek information about mental illness”; O’Connor & Casey, 2015). Given that this 35-item measure has a controversial factor structure, we decided to run a principal component analysis (PCA) by taking the 35 items from the original scale. This factorization could be helpful when analyzing differences in mental health literacy, as we could accurately study differences in specific domains and better characterize the mental health literacy and its relationship with the use of alternative health care. Horn’s parallel analysis method (Horn, 1965) was applied via SPSS macro (O’Connor, 2000) to reduce the data to a subset of reliable factors. Subsequently, a PCA with Oblimin rotation was performed using IBM SPSS v.26. We discarded items with factor loadings < 0.45 and/or cross-loadings > 0.35 . Parallel analysis yielded a 5-factor solution ($KMO = 0.82$; Bartlett’s test: $\chi^2(595) = 3760.44$, $p < 0.001$); however, two factors were discarded due to their low internal consistency (0.46 and 0.34, respectively). The resulting three factors were: Mental Health Stigma (items 23, 29, 30, 31, 32, 33, 34, and 35; Likert 1-5; item $M = 2.25$, $SD = 0.72$; $\alpha = 0.86$; skewness = 0.46, kurtosis = 0.25), negative judgments and unwillingness to interact with mental health patients; Mental Health Knowledge (items 1, 2, 4, 5, 6, and 7; Likert 1-4; item $M = 3.23$, $SD = 0.48$; $\alpha = 0.68$; skewness = -0.57, kurtosis = 0.06), the capacity to correctly identify disorders, risk factors, and psychotherapies; and Mental Health Information (items 16, 17, 18, and 19; Likert 1-5; item $M = 3.62$, $SD = 0.88$; $\alpha = 0.71$; skewness = -0.56, kurtosis = 0.04), self-attributed skills and confidence to properly seek mental health information.

Psychiatric Skepticism. To measure participants' trust in mental health care, here operationalized as the individual's degree of skepticism toward psychiatry as a legitimate science, we included a 16-item measure on Psychiatric Skepticism (Likert 1-5; item $M = 2.44$, $SD = 0.72$; $\alpha = 0.91$; skewness = 0.41, kurtosis = -0.03; e.g., "psychiatric diagnoses serve to pathologize individuals simply for being different" and "the specific definitions of, or criteria for, many current psychiatric diagnoses are vague and arbitrary"; Swami & Furnham, 2011). Due to the commonalities between both fields of knowledge, this scale includes a substantial number of items also applicable to clinical psychology – for example, psychiatrists and clinical psychologists often base their diagnoses on the same psychometric tools and diagnostic manuals. CFA revealed that the Spanish version of the scale on Psychiatric Skepticism shows a 1-factor structure analogous to that of the original English version: χ^2 (df) = 233.858 (102), $p < 0.001$; TLI = 0.96; CFI = 0.96; RMSEA (CI) = 0.05 (0.041 – 0.057); SRMS = 0.03.

Psychological Mindedness. For psychological mindedness, defined as a person's general attitude toward emotional nuance and complexity, as well as toward insight into one's own and others' motives and intentions, we used the two factors of the 14-item balanced index of psychological mindedness (Likert 1-5; e.g., "my attitude and feelings about things fascinate me" and "I can't make sense out of my feelings"; Nyklicek & Denollet, 2009): Interest (7-item; item $M = 2.65$, $SD = 0.70$; $\alpha = 0.77$; skewness = -0.44, kurtosis = 0.14), the intellectual and theoretical concern toward one's psychological phenomena, and Insight (7-item; item $M = 2.89$, $SD = 0.76$; $\alpha = 0.79$; skewness = -0.68, kurtosis = 0.12), the ability to be in touch with and properly reflect on one's psychological states and processes. CFA suggested a 2-factor

structure analogous to that of the original version: χ^2 (df) = 148.226 (173), $p < 0.001$; TLI = 0.95; CFI = 0.96; RMSEA (CI) = 0.04 (0.034 – 0.054); SRMS = 0.04.

Psychotherapy Expectancy. To assess patients' expectations of behavior in psychotherapy, we used the 24-item revised psychotherapy expectancy inventory (Likert 1-7; e.g., "how strongly do you expect to be concerned with the impression you make on your therapist?" and "how strongly do you expect to act as freely as you would with your best friend?"; Bleyen, Vertommen, Vander Steene, & Van Audenhove, 2001), which includes four factors: Approval – suggesting that the patient is concerned with obtaining and maintaining the therapist's support and emotional guidance (3-item; item $M = 3.67$, $SD = 1.54$; $\alpha = 0.81$; skewness = 0.13, kurtosis = -0.75; e.g., "how strongly do you expect your therapist to be reassuring?"); Advice – denoting expectations that the therapist will provide cognitive guidance and evaluation (6-item; item $M = 4.57$, $SD = 1.38$; $\alpha = 0.85$; skewness = -0.33, kurtosis = -0.54; e.g., "how strongly do you expect to get definitive advice from your therapist?"); Audience – indicating how strongly the client expects to take verbal initiative (5-item; item $M = 3.37$, $SD = 1.32$; $\alpha = 0.86$; skewness = 0.35, kurtosis = -0.32; e.g., "how strongly do you expect to initiate the conversation?"); and Relationship – referring to expectations of spontaneous self-disclosure in the context of an egalitarian relationship with the therapist (6-item; item $M = 5.21$, $SD = 1.23$; $\alpha = 0.86$; skewness = -0.70, kurtosis = 0.09; e.g., "how strongly do you expect to behave in a spontaneous manner?"). CFA after the elimination of 4 items with factor loadings < 0.45 (items 1, 5, 6, and 7) confirmed a 4-factor structure analogous to that of the original English version: χ^2 (df) = 996.304 (214), $p < 0.001$; TLI = 0.92; CFI = 0.94; RMSEA (CI) = 0.07 (0.060 – 0.073); SRMS = 0.07.

Help-Seeking Preferences. To measure participants' help-seeking preferences, we included the personal-emotional problem version of the 10-item General Help-Seeking Questionnaire (Likert 1-7; all items, means and standard deviations are displayed in Table 1; Wilson, Deane, Ciarrochi, & Rickwood, 2005). The General Help-Seeking Questionnaire was not initially subjected to CFA because these items were intended to be used independently—although, as we describe later, two factors were extracted after analyzing the results of the intergroup comparisons.

Use of Alternative Health Care (CAP and CAM). For item selection, we reviewed scientific databases (e.g., PubMed and Web of Science), official reports (e.g., NIH, 2005; MSPSI, 2011), and evidence-based clinical guidelines (e.g., APS, 2018), so all the included techniques were uncontroversial CAP and CAM instances. The CAP questionnaire included 13 techniques (e.g., family constellations and neuro-linguistic programming) and the CAM questionnaire included 15 techniques (e.g., homeopathy and Bach flower remedies), with two questions in both cases. The first question, on the use of each technique (CAP-U and CAM-U, respectively), was dichotomous ("Yes/No") and used to compare between groups of users and non-users in *t*-tests and logistic regressions.

Belief in the Efficacy of Alternative Health Care (CAP and CAM). Using the same questionnaire as for use of alternative health care, we included a second question on the participants' perceptions of treatment effectiveness for disorders/diseases. This question was also dichotomous ("Yes/No"). The resulting variables were labeled as CAP-E (Nominal 0-1; item $M = 0.14$, $SD = 0.18$; $\alpha = 0.82$; skewness = 1.71, kurtosis = 3.45) and CAM-E (Nominal 0-1; item $M = 0.12$, $SD = 0.16$; $\alpha = 0.79$; skewness = 1.65, kurtosis = 2.55), and used as independent variables to predict use of alternative health care.

Use of Evidence-Based Psychotherapies. As we did with alternative health care, 5 items were included to measure the use of, and belief in, evidence-based psychotherapies (EBP; e.g., cognitive behavioral therapy and interpersonal psychotherapy). The question on use of evidence-based psychotherapies was also dichotomous ("Yes/No") and labeled as EBP-U.

Belief in the Efficacy of Evidence-Based Psychotherapies. This dichotomous variable ("Yes/No") was measured using the same 5 items as for use of evidence-based psychotherapies, labeled as EBP-E, and used as independent variable in logistic regressions (Nominal 0-1; item $M = 0.35$, $SD = 0.33$; $\alpha = 0.78$; skewness = 0.56, kurtosis = -0.92).

Statistical Analyses and Open Science

Correlation analyses, *t*-tests, and logistic regressions were conducted using IBM SPSS Statistics for Windows, v.27 (Armonk, NY: IBM Corp). A series of two-sample *t*-tests between users and non-users of CAP, and users and non-users of EBP, regarding help-seeking preferences for emotional problems are reported in Table 1. Table 2 displays the correlation coefficients between all the independent variables. These analyses were controlled for multiple comparisons using Bonferroni correction ($p < 0.05$). Given the dichotomous nature of the dependent variables, we used binary logistic regressions to assess the predictive power of the independent variables. These results are reported in Table 3 (CAP-U), Table 4 (EBP-U), and Table 5 (CAM-U). Lastly, we conducted latent profile analysis (LPA) using the tidyLPA package for R (v.4.1.2) to identify profiles among CAP users. These results are displayed in Tables 6 and 7, and Figure 1.

The data, syntaxes, codes, and materials used in this study are publicly available in the following Open Science Framework repository: <https://osf.io/znk3v/>.

Results

Help-Seeking Preferences

We defined as users of CAP/CAM all the participants who had regularly used at least one of these techniques. 237 were grouped as CAP users (CAP-U), while 301 were non-users. Likewise, 300 were grouped as CAM users (CAM-U), while 238 were non-users. 152 participants (64.14% of CAP users and 50.67% of CAM users) used both types of alternative health care. Differences in help-seeking preferences are reported in Table 1. *T*-tests between users and non-users of CAP revealed significant asymmetries regarding Mental Health Professional ($g = 0.39$; $p < 0.001$), Helpline ($g = 0.38$; $p < 0.001$), and Minister ($g = 0.32$; $p < 0.001$). Regarding EBP, levels were significantly higher among users in Men-

tal Health Professional ($g = -0.52$; $p < 0.001$) and among non-users in No one ($g = 0.29$; $p < 0.001$). The observed help-seeking pattern among CAP and EBP users consistently suggests a tendency to seek professional help at the expense of informal support, such as family and friends.

In view of the obtained results, we created two new variables to be used in subsequent analyses: Informal Help-Seeking, composed of Partner, Friend, Parent, and Relative (item $M = 4.67$, $SD = 1.19$; $\alpha = 0.62$; skewness = -0.66, kurtosis = 0.19) and Professional Help-Seeking, composed of Mental Health Professional, Helpline, and Doctor (Minister was eliminated due to poor factor loading; item $M = 3.36$, $SD = 1.30$; $\alpha = 0.66$; skewness = 0.37, kurtosis = -0.46). CFA endorsed a 2-factor structure composed of both types of help-seeking: χ^2 (df) = 39,729 (12), $p < 0.001$; TLI = 0.91; CFI = 0.95; RMSEA (CI) = 0.07 (0.044 – 0.089); SRMS = 0.05.

Table 1 Independent samples *t*-test between users and non-users of CAP and EBP

	CAP-U				EBP-U			
	Non-users group item $M(SD)$; $n = 301$	Users group item $M(SD)$; $n = 237$	<i>t</i>	Hedges's <i>g</i>	Non-users group item $M(SD)$; $n = 253$	Users group item $M(SD)$; $n = 285$	<i>t</i>	Hedges's <i>g</i>
Partner	6.06 (1.44)	5.63 (1.77)	3.01	0.27	6.04 (1.46)	5.72 (1.72)	2.36	0.20
Friend	5.15 (1.54)	4.94 (1.61)	1.50	0.13	5.07 (1.56)	5.04 (1.59)	0.21	0.02
Parent	4.61 (1.89)	4.21 (2.03)	2.34	0.20	4.56 (1.91)	4.32 (2.00)	1.39	0.12
Relative	3.51 (1.77)	3.09 (1.79)	2.73	0.24	3.45 (1.80)	3.22 (1.79)	1.53	0.13
MHP	4.49 (1.79)	5.19 (1.71)	-4.55*	-0.39	4.32 (1.81)	5.22 (1.66)	-5.99*	-0.52
Helpline	1.61 (1.03)	2.10 (1.57)	-4.13*	-0.38	1.68 (1.18)	1.95 (1.43)	-2.41	-0.21
Doctor	3.34 (1.84)	3.60 (1.95)	-1.57	-0.14	3.28 (1.76)	3.61 (1.99)	-2.04	-0.18
Minister	1.25 (0.87)	1.59 (1.24)	-3.59*	-0.32	1.33 (0.94)	1.46 (1.16)	-1.49	-0.13
No one	2.46 (1.80)	2.12 (1.64)	2.29	0.20	2.58 (1.85)	2.07 (1.59)	3.38*	0.29
Other	2.02 (1.36)	2.12 (1.47)	-0.86	-0.07	2.01 (1.35)	2.11 (1.47)	-0.86	-0.07

Note. MHP – Mental Health Professional. *T*-tests are two-tailed; results in bold are corrected by applying the Bonferroni correction ($p < 0.05$).

* $p < 0.001$

Correlations between Independent Variables

We conducted correlation analyses to assess the associations between all the independent variables. The reported correlation coefficients are Pearson's except those of CAP-E and CAM-E, which are Spearman's due to the non-normal distribution of these two variables. As can be seen from Table 2, the largest correlations were found between CAP-E and CAM-E ($r = 0.44$; $p < 0.001$), CAP-E and EPB-E ($r = 0.66$; $p < 0.001$), Approval and Advice ($r = 0.37$; $p < 0.001$), Advice and Audience ($r = 0.30$; $p < 0.001$), and Audience and Relationship ($r = 0.39$; $p < 0.001$), and Interest and Relationship ($r = 0.34$; $p < 0.001$).

Binary Logistic Regressions with CAP-U, EBP-U, and CAM-U as Dependent Variables

A series of binary logistic regressions were conducted to assess the predictive power of the independent variables, grouped using the following thematic categories (from the first to the sixth regression): help-seeking preferences, psychiatric skepticism, mental health literacy, psychological mindedness, psychotherapy expectancy, and belief in efficacy. Logistic regressions with CAP-U as the dependent variable can be found in Table 3. Religiosity was the only robust socio-demographic predictor of CAP-U (ORs ranging from 1.43 to 1.54). Regarding help-seeking behaviors, the predictive power of both variables showed opposed directions: positive for Professional Help-Seeking (OR = 1.60, $p < 0.001$) and negative for Informal Help-Seeking (OR = 0.63, $p < 0.001$). In addition, Psychiatric Skepticism (OR = 1.39, $p < 0.001$), Interest (OR = 1.68, $p < 0.001$), Relationship (OR = 1.61, $p < 0.001$), and CAP-E (OR = 1.75, $p < 0.001$) showed to be positive predictors.

Regarding EBP usage, 285 participants were users and 253 non-users, with 179 using

both EPB and CAP (62.81% of EBP users and 75.53% of CAP users). As can be seen from Table 4, Religiosity, Psychiatric Skepticism, and Interest did not predict EPB-U, which means that these three variables constitute specific predictors of alternative psychotherapies. In contrast, the specific predictors of EBP-U were Mental Health Information (OR = 1.39, $p < 0.001$) and EBP-E (OR = 2.50, $p < 0.001$). Lastly, as can be seen from Table 5, CAM-U was better predicted by the socio-demographic variables Age (ORs ranging from 1.39 to 1.47) and Sex (ORs ranging from 1.39 to 1.44), with CAM-E (OR = 3.12, $p < 0.001$) being the only predictor among the scales included in the study.

Latent Profile Analysis

We used LPA, a variant of latent class analysis that allows the use of continuous variables, to identify profiles of CAP users. LPA is a model-based method that fits a statistical model to the data, offering a classification of each participant in the most probable profile based on a set of observable variables. Unlike CFA, LPA provides a classification of participants instead of variables, thus being a person-centered analytic tool (Berlin, Williams, & Parra, 2014). A range of indices determine the most appropriate number of latent profiles: Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC), sample-size adjusted BIC (SABIC), and a measure of entropy. Lower values for AIC, BIC, and SABIC indicate greater fit. For entropy, values above 0.80 denote reliable separation of profiles (Ramaswamy, DeSarbo., Reibstein, & Robinson, 1993). Any given profile should include at least 1% of the sample or 25 cases to avoid low statistical power (type 2 error) and low generalization power (Tein, Cox, & Cham, 2013).

As this analysis aims to identify profiles among CAP users, the data was disaggregated

Table 2 Correlation matrix between the independent variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. CAP-E	-	0.44*	0.66*	0.05	0.25*	0.06	-0.03	0.14	0.11	0.01	-0.07	0.06	0.10	-0.05	0.12
2. CAM-E		-	0.22*	0.04	0.17*	0.00	0.11	-0.04	0.01	0.02	0.01	0.00	0.08	-0.06	0.04
3. EBP-E			-	0.01	0.13	0.10	-0.16*	0.19*	0.19*	-0.06	-0.15*	0.09	0.03	-0.08	0.09
4. Psychiatric Skepticism				-	0.15*	-0.08	0.06	-0.08	0.02	0.04	-0.07	0.11	-0.06	-0.15*	0.02
5. Interest					-	0.29*	-0.01	0.14	0.16*	-0.03	0.02	0.14*	0.34*	0.14*	0.10
6. Insight						-	-0.11	0.09	0.07	-0.20*	-0.15*	-0.05	0.13	0.14	-0.01
7. Mental Health Stigma							-	-0.13	-0.26*	-0.02	0.21*	-0.03	-0.08	-0.09	-0.12
8. Mental Health Knowledge								-	0.14	0.04	0.05	0.05	0.11	0.09	0.15*
9. Mental Health Information									-	-0.01	-0.07	0.17*	0.15*	0.06	0.23*
10. Approval										-	0.37*	0.27*	0.12	0.04	0.02
11. Advice											-	0.30*	0.27*	0.05	0.03
12. Audience												-	0.39*	0.06	0.17*
13. Relationship													-	0.13	0.13
14. Informal Help-Seeking														-	0.19*
15. Professional Help-Seeking															-

Note. All correlation coefficients are Pearson's, except for CAP-E and CAM-E, which are Spearman's. All correlations tests are two-tailed. All significant values were corrected by Bonferroni method at $p < 0.05$, * $p < 0.001$.

Table 3 Binary logistic regressions with CAP-U as dependent variable

	Use of CAP				
	OR (95% CI)				
Age	0.99 (0.83, 1.19)	1.03 (0.86, 1.23)	1.03 (0.86, 1.23)	1.07 (0.90, 1.29)	1.03 (0.86, 1.24)
Sex	1.33 (1.10, 1.62)	1.23 (1.02, 1.49)	1.20 (0.99, 1.45)	1.15 (0.95, 1.40)	1.17 (0.96, 1.42)
Religiosity	1.37 (1.13, 1.67)	1.48* (1.22, 1.80)	1.50* (1.24, 1.82)	1.43* (1.18, 1.74)	1.54* (1.26, 1.87)
Education	1.14 (0.94, 1.37)	1.11 (0.92, 1.32)	1.05 (0.88, 1.26)	1.06 (0.88, 1.27)	1.03 (0.85, 1.23)
Political Orientation	0.89 (0.73, 1.08)	0.88 (0.73, 1.07)	0.86 (0.71, 1.05)	0.88 (0.73, 1.07)	0.88 (0.72, 1.07)
Informal Help-Seeking	0.63* (0.52, 0.77)				
Professional Help-Seeking	1.60* (1.31, 1.94)				
Psychiatric Skepticism		1.39* (1.16, 1.67)			
Mental Health Stigma			1.02 (0.84, 1.24)		
Mental Health Knowledge			1.14 (0.95, 1.36)		
Mental Health Information			1.31 (1.08, 1.58)		
Interest				1.68* (1.37, 2.06)	
Insight				0.87 (0.71, 1.05)	
Approval					0.86 (0.70, 1.05)
Advice					0.78 (0.63, 0.95)
Audience					1.03 (0.84, 1.27)
Relationship					1.61* (1.31, 1.99)
CAP-E					1.75* (1.30, 2.34)
EBP-E					1.06 (0.83, 1.35)
CAM-E					0.95 (0.76, 1.18)

Note. CAP groups were defined as 0 = non-users, 1 = users.

* $p < 0.001$.

Table 4 Binary logistic regressions with EBP-U as dependent variable

	Use of EBP					
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Age	1.14 (0.95, 1.36)	1.16 (0.98, 1.38)	1.19 (0.99, 1.43)	1.16 (0.97, 1.38)	1.16 (0.97, 1.39)	1.20 (1.00, 1.45)
Sex	0.96 (0.80, 1.15)	0.91 (0.77, 1.09)	0.88 (0.74, 1.06)	0.89 (0.74, 1.06)	0.88 (0.73, 1.05)	0.96 (0.80, 1.16)
Religiosity	1.04 (0.86, 1.26)	1.13 (0.94, 1.36)	1.16 (0.96, 1.40)	1.11 (0.92, 1.34)	1.15 (0.95, 1.39)	1.10 (0.90, 1.35)
Education	1.23 (1.03, 1.47)	1.19 (1.00, 1.42)	1.15 (0.97, 1.38)	1.15 (0.97, 1.37)	1.14 (0.96, 1.36)	1.04 (0.87, 1.25)
Political Orientation	1.00 (0.83, 1.21)	0.98 (0.81, 1.18)	1.01 (0.83, 1.23)	0.99 (0.83, 1.20)	1.00 (0.83, 1.21)	1.02 (0.84, 1.24)
Informal Help-Seeking	0.74 (0.61, 0.90)					
Professional Help-Seeking	1.56* (1.29, 1.89)					
Psychiatric Skepticism		1.05 (0.88, 1.25)				
Mental Health Stigma			0.83 (0.68, 1.01)			
Mental Health Knowledge			1.27 (1.06, 1.53)			
Mental Health Information			1.39* (1.16, 1.68)			
Interest				1.12 (0.93, 1.34)		
Insight				1.19 (0.99, 1.43)		
Approval					0.97 (0.80, 1.17)	
Advice					0.73 (0.60, 0.90)	
Audience					0.99 (0.81, 1.21)	
Relationship					1.33 (1.09, 1.62)	
CAP-E						0.69 (0.52, 0.92)
EBP-E						2.50* (1.90, 3.28)
CAM-E						0.90 (0.72, 1.13)

Note. EBP groups were defined as 0 = non-users, 1 = users.

* $p < 0.001$.

Table 5 Binary logistic regressions with CAM-U as dependent variable

	Use of CAM					
	OR (95% CI)					
Age	1.44* (1.19, 1.74)	1.43* (1.19, 1.73)	1.39* (1.15, 1.68)	1.47* (1.21, 1.77)	1.44* (1.19, 1.74)	1.42* (1.16, 1.73)
Sex	1.40* (1.16, 1.69)	1.42* (1.18, 1.71)	1.44* (1.20, 1.74)	1.39* (1.15, 1.68)	1.39* (1.15, 1.69)	1.28 (1.05, 1.57)
Religiosity	1.35 (1.11, 1.64)	1.34 (1.10, 1.62)	1.32 (1.09, 1.61)	1.32 (1.08, 1.60)	1.35 (1.11, 1.64)	1.22 (0.99, 1.50)
Education	0.89 (0.74, 1.07)	0.92 (0.77, 1.10)	0.91 (0.76, 1.09)	0.91 (0.76, 1.09)	0.90 (0.75, 1.08)	0.93 (0.77, 1.13)
Political Orientation	1.07 (0.88, 1.30)	1.07 (0.88, 1.30)	1.02 (0.83, 1.24)	1.07 (0.88, 1.30)	1.05 (0.86, 1.28)	1.00 (0.80, 1.23)
Informal Help-Seeking	1.11 (0.92, 1.34)					
Professional Help-Seeking	1.02 (0.85, 1.23)					
Psychiatric Skepticism		1.09 (0.91, 1.31)				
Mental Health Stigma			1.21 (0.99, 1.48)			
Mental Health Knowledge			0.86 (0.72, 1.04)			
Mental Health Information			1.19 (0.98, 1.44)			
Interest				1.27 (1.05, 1.54)		
Insight				0.86 (0.71, 1.05)		
Approval					0.93 (0.76, 1.14)	
Advice					1.06 (0.87, 1.31)	
Audience					1.04 (0.84, 1.28)	
Relationship					1.32 (1.08, 1.62)	
CAP-E						1.05 (0.77, 1.43)
EBP-E						0.82 (0.64, 1.07)
CAM-E						3.12* (2.26, 4.31)

Note. CAM groups were defined as 0 = non-users, 1 = users.

* $p < 0.001$.

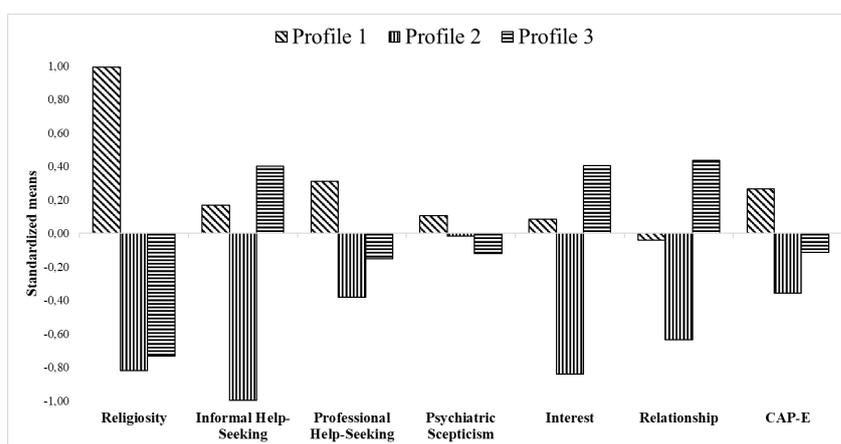
to analyze this subset of participants. We used the first model of LPA (variance = equal, covariance = zero) due to the low correlations between the variables, with all the significant predictors for the use of CAP found in the logistic regression analyses being included (see Table 3). A first analysis was conducted using the entire sample of users ($N = 237$), resulting in a 6-profile model (AIC = 4629; BIC = 4816; SABIC = 4645; Entropy = 0.82). However, 3 of those profiles were below the minimum of 25 participants, so we eliminated them from the final sample ($N = 206$) and relaunched the analysis. A 3-profile model was selected because it exhibited the lowest BIC and the highest entropy (Table 6).

As can be seen from Figure 1 and Table 7, these three user profiles show distinctive and interpretable patterns, which we conceptualize as “religious users” (first profile; primarily characterized by their higher levels of religiosity), “unmotivated users” (second profile; characterized by their lower levels of religiosity, help-seeking intentions, interest in psychological phenomena, and intellectual endorsement of CAP), and “analytical users” (third profile; characterized by their lower levels of religiosity and their higher levels of interest in psychological phenomena, informal help-seeking, and expectations of relationship during psychotherapy).

Table 6 Fit of latent profile models

Profiles	AIC	BIC	SABIC	Entropy
1	4113	4160	4115	-
2	4071	4144	4075	0.62
3	4009	4109	4014	0.80
4	4005	4131	4011	0.77
5	4000	4153	4007	0.79

Note. Selected model in bold.



Profile 1: Religious users; Profile 2: Unmotivated users; Profile 3: Analytical users

Figure 1 Standardized means of the three user profiles.

Table 7 Frequency, distinctive characteristics, and conceptualization of each profile

	N (%)	Characteristics	Conceptualization
Profile 1	86 (36.29)	Higher in religiosity Higher in professional help-seeking Higher in endorsement of CAP	Religious users
Profile 2	42 (17.72)	Lower in religiosity Lower in help-seeking Lower in interest Lower in relationship Lower in CAP-E	Unmotivated users
Profile 3	78 (32.91)	Lower in religiosity Higher in informal help-seeking Higher in interest Higher in relationship	Analytical users

Note. Percentages are based on the total number of CAP users ($N = 237$).

Discussion

The reported results suggest several predictors and profiles for the use of CAP. Religiosity, professional help-seeking, distrust in mental health care as a scientific and professional field, interest in psychological phenomena, expectations of establishing a relationship with the psychotherapist, and intellectual endorsement of the effectiveness of alternative psychotherapies positively predicted the use of CAP, with informal help-seeking being the only negative predictor. Analogous analyses with five evidence-based psychotherapies as the dependent variable revealed that religiosity, distrust in mental health care, and interest in psychological phenomena are specific predictors of CAP (i.e., they do not predict use of evidence-based techniques). Moreover, none of the psychology-specific variables included in the study predicted the use of CAM, which indicates differences between both groups of users of alternative health care. In the following, we will discuss some of the distinctive characteristics of the three profiles found among CAP users.

The relationship between religiosity and alternative psychotherapies has proven to be particularly robust, to the point that this variable characterizes a profile that accounts for 36.29% of our sample of CAP users. These results constitute quantitative evidence for an association between CAP and some dimensions of spirituality (Macdonald, Frieman, Brewczynski, Holland, Salagame, Mohan, & Gubrij, 2015). In some cases, such as transpersonal psychology, rebirthing, coaching, and family constellations, the theoretical relationship between spirituality and psychotherapy is explicit and substantive – as these techniques were directly related to the Human Potential Movement, with family constellations influenced by Zulu's religiosity and coaching originally related to the Divine Light Mission, a formerly influential religious movement (Thaler & Nievod, 2003; Fasce, 2018). In other cases, such as thought field therapy, energy psychology, emotional freedom technique, and primal therapy the relationship may be more subtle but can be tracked (e.g., Williams, 2006).

CAP users also exhibit general proneness toward professional help-seeking, in contrast to

lower preference for informal sources such as partners and parents – although unmotivated users tend to be more reluctant to both types of help-seeking. This general tendency may indicate interpersonal detachment and lack of self-disclosure with relatives and friends regarding their emotional problems. Psychotherapy expectancies among CAP users offer convergent evidence in this regard, as these participants tend to expect spontaneous relationship-building to express their feelings during sessions, instead of a critical or normative therapist's response. Prior research has found that adequate patients' expectations and preferences matched to therapy conditions are important predictors of psychotherapy engagement (Constantino, Arnkoff, Glass, Ametrano, & Smith, 2011; Swift, Callahan, & Vollmer, 2011), and CAP users may be seeking in psychotherapy emotionally sympathetic interpersonal relations which tend to be restricted by ethical and procedural reasons. Hence, limitations for dual relationships could be an important variable, still not yet fully understood, in explaining evidence-based practice rejection.

Regarding psychological mindedness (here interpreted as a domain-specific instance of general analytical thinking), intellectual interest for self-awareness is positively associated with CAP, while the associated skill is not. This characteristic is typical of analytical users and suggests hyperactive metacognition that could be satisfied with the appealing theories and counseling style that characterize alternative psychotherapies. Prior research outcomes show that, in a context of heightened motivated reasoning, personally salient beliefs tend to be hardly overridden by analytical thinking (e.g., Lewandowsky & Oberauer, 2016; Kahan, 2016), so individuals tend to accept or reject hostile information depending on its compatibility with previous beliefs and perceived consensus within their reference group, thus

manifesting conventionalism (Pasek, 2018; Lewandowsky, Cook, Fay, & Gignac, 2019; Fasce, Adrián-Ventura, Avendaño, 2020). These phenomena suggest that efficient interventions to promote evidence-based mental health care should consider motivational strategies, such as inoculation messages exposing misleading argumentation techniques, as well as worldview and values affirmation (Ståhla & van Prooijen, 2018; Lewandowsky & van der Linden, 2021).

The reported results also indicate that CAP users tend to be more skeptical about psychiatric diagnosis and treatments than non-users and users of evidence-based techniques, with unmotivated users showing low epistemic trust in both evidence-based *and* alternative psychotherapies. There are at least three not mutually exclusive explanations for this. First, an explanation based on CAP's pseudoscientific rhetoric – unmotivated users may have a generalized lack of epistemic trust because they tend to fail to distinguish between evidence-based and alternative psychotherapies. This lack of distinction between adequate and flawed psychological explanations could be boosted by their low levels of psychological mindedness. Second, an explanation based on affective and communicative variables that could lead this group of users to prefer alternative interventions despite their generalized lack of trust – for instance, "official" mental health services are more easily integrated into anti-establishment conspiracy theories (Nera, Wagner-Egger, Bertin, Douglas, & Klein, 2021). Third, an explanation based on users' clinical pictures – unmotivated users, who are also more reluctant to engage in help-seeking, may be seeking help for more severe problems and/or could have had prior negative experiences with evidence-based psychotherapies, thus increasing their willingness to explore alternative techniques as a last resort.

We want to remark on some of the limitations of this study. First, as there is no established theoretical framework on the use of CAP, these results must be considered as exploratory. Second, these correlational results need further experimental confirmation to identify potential confounders and confirm causal relationships. Third, existing socio-demographic sample asymmetries (higher number of women, more university educated, and more non-religious participants) should be assessed in future studies to confirm that they did not affect the reported results. Fourth, the quantitative study of CAP is currently underdeveloped, especially with regard to domain-specific measures—for example, there is no validated scale on skepticism toward clinical psychology, focused on perceptions of psychotherapeutic outcomes, processes, and research. This limitation, which also affects the questionnaires used to assess participants' help-seeking, mental health literacy, and psychotherapy expectancy could have lowered the reported effect sizes.

Concluding Remarks

We have offered initial evidence for several promising lines of psychological research to aid the understanding of patients' preferences toward CAP. Even though our findings establish a relationship between CAP use and psychological dimensions such as help-seeking preferences, psychiatric skepticism, and psychological mindedness, individual differences in other social, clinical, or cognitive traits could account for additional variability. Thus, the integration from different psychological areas may surely be fruitful when studying such a complex behavior. As motives for usage of alternative psychotherapies constitute an important, although underrepresented, topic in the current scientific literature, we encourage other researchers to

investigate the psychological variables that explain their persistent supply and demand. The exploratory results reported in this article constitute a useful starting point for this necessary endeavor.

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