

READINESS TO CHANGE QUESTIONNAIRE: RELIABILITY STUDY OF ITS SPANISH VERSION

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Abstract — The present study explored the reliability and validity of a Spanish version of the Readiness to Change Questionnaire (RCQ) (12-item short form) as it might be used for opportunistic intervention. The test has three scales to allocate patients to a stage of change: pre-contemplation (P), contemplation (C) or action (A). The RCQ was translated and back-translated prior to pilot administration to 15 patients. From two settings (a general hospital ward and a primary health care centre), 201 patients were identified as excessive drinkers on the Alcohol Use Disorders Identification Test. Patients known to be alcohol-dependent and attending for alcohol-related reasons were excluded. Patients completed the RCQ. Test–retest reliability after 2 days was assessed in 35 patients. A component analysis was performed. Patients were classified on RCQ scores to a stage of change. Two experts separately interviewed the patients and made an allocation to stage of change, blind to the RCQ score. Test–retest reliability was good (P: $r = 0.81$; C: $r = 0.87$; A: $r = 0.86$). Within the three scales, RCQ items showed fair consistency in terms of Cronbach's alpha (P: 0.58, C: 0.75, A: 0.80). Component analysis showed that together the scales accounted for 57.4% of the variance. The experts agreed between themselves on patients' stage of change (weighted kappa 0.92) but much less with the stage of change according to RCQ (expert A, kappa = 0.44; expert B, kappa = 0.52). Omitting patients with low consumption did not improve internal reliability, and omitting those with low educational level who might have filled in the questionnaire wrongly did not improve internal reliability or agreement between RCQ and the experts. We conclude that the Spanish RCQ did not function efficiently in a population of opportunistically identified excessive drinkers.

INTRODUCTION

The intervention spectrum needs to be broadened beyond alcohol dependency. This means extending the care to those people who have some physical or psychological problems because of their alcohol consumption or who are at risk of developing them, but do not yet meet criteria for dependency.

Brief intervention is mainly directed toward heavy drinkers identified in an opportunistic way, when they visit the doctor for a non-alcoholic reason. The focus is on cutting down the alcohol consumption and this has frequently been shown to be effective (Poikolainen, 1999), probably attributable to personal resources underlying the change process. The process of change model, described by Prochaska and DiClemente (1986), explains this evolutionary process and permits the possibility of adjusting the therapeutic approach to the patient's stage of change, which should give better results. Having an instrument to properly allocate patients within the stages of change might be very useful for doctors working in primary health care or in general hospital wards.

Rollnick *et al.* (1992) proposed their self-completed Readiness to Change Questionnaire (RCQ), which seemed to have brevity and feasibility for use with brief opportunistic intervention by busy non-specialized professionals. The test considered just the pre-contemplation, contemplation and action stages, those in which a patient might be prior to or at the point of starting an intervention. Maintenance stage was not included by these authors, because of the overlapping of this stage with the pre-contemplation stage (lack of concern because of unawareness or because the problem is already

overcome) and because patients at the maintenance stage would not need intervention.

The gradual introduction of brief intervention strategies in Spain justified studying the possible inclusion of RCQ in medical protocols. We contacted the authors and obtained their approval for validating a Spanish version of the questionnaire, as well as their advice during the validation process. Validating a Spanish version of the RCQ meant: (1) making a reliable translation of the test, not literally, but preserving all its original meaning; (2) administering it to a sample of patients with the aim of testing the internal consistency among scales, and the reliability between test and retest for all three scales; to determine the concurrent validity of the questionnaire against the blind external judgement; (3) ensuring that the Spanish RCQ would be giving the same information as the English one.

SUBJECTS AND METHODS

Materials

The RCQ is a 12-item test based on Prochaska and DiClemente (1986) stages of change, which provides three four-item scales, each representing a stage of change [pre-contemplation (P), contemplation (C) and action (A)]. Answers are given on a Likert scale ranging from 'strongly disagree' to 'strongly agree' and are scored from –2 through 0 to +2. The range for each scale was –8 to +8. Each patient is allocated to the stage on which s/he reached the highest score. It has shown satisfactory psychometric properties, with concurrent validity on different measures (Rollnick *et al.* 1992) and good predictive validity (Heather *et al.* 1993).

The AUDIT (Alcohol Use Disorders Identification Test) was developed by the WHO (Babor *et al.*, 1989), and consists

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of 10 items which screen for alcohol use (items 1–3), alcohol-related problems (items 7–10) and dependence symptoms (items 4–6) during the past 12 months. Scoring ≥ 8 on AUDIT means at least being a hazardous or harmful drinker.

Procedure

RCQ was translated and back-translated, and the Spanish version was considered reliable and approved by the authors. Testing in 15 volunteers showed that the questionnaire was understandable.

Patients were recruited from two different health care settings: (1) a primary health care centre in Barcelona (ABS Barceloneta); (2) a general hospital ward in Madrid (Hospital La Paz). They were neither consecutive nor chosen at random. They were available to be asked to complete the AUDIT questionnaire, and were not attending for alcohol-related reasons. Illiterate and old people and supposedly alcohol-dependent patients were excluded. From each participating patient, the following information was gathered, besides informed consent: social and demographic data, alcohol consumption (current typical week) and AUDIT answers. Patients scoring ≥ 8 (>7 or more in women) were included.

The selected patients were asked to fill in the RCQ. Thereafter, its result was compared with the diagnostic classification independently made by two experts (blind judgement), if possible on the very same day. Experts were four professionals (two for each sub-sample): three psychiatrists with a long clinical and research experience in alcoholism and one general practitioner trained in alcohol dependence screening and treatment. All of them were familiar with the model of change. The use of experts' blind judgement as external criteria was decided, because the procedure of using cartoons as criteria — where patients had to tick one of four cartoons representing the four selected stages — proved erratic.

Two experts (A and B) in each setting (primary health centre and hospital ward) separately and consecutively allocated each subject to a stage of change according to their professional opinion after a clinical interview (~20 min) with the patient. They had no previous information either on the patients or on the test score. They did not intervene either in patients' further assessment or advice: any appointment to tackle the drinking pattern and its consequences was postponed and done by other professionals.

Dependent variables were raw scores obtained for each scale of the RCQ. The hypothesis was that subjects would score highest in the scale to which the experts had allocated them.

The RCQ was given to all 201 patients. A second retest was performed 2 days later to a reduced number of patients (test-retest). This short period between measurement points was recommended by the authors.

To complete the sample was not easy, especially in the primary care setting, because of patients' reluctance to attend appointments, even if paid. Another difficulty was the low educational level, particularly in outpatients (the centre belonged to a harbour neighbourhood), some of them being excluded because of illiteracy.

Data analysis

Statistical analysis was carried out using the statistical package SPSS. Demographic characteristics of the sample are presented as descriptive statistics (percentage, mean \pm SD).

Comparisons of means were made using Student's *t*-test and analysis of variance. The χ^2 -test was used for comparing percentages. A 5% significance level was accepted for all the tests. Cronbach's alpha coefficient, factor analysis of principal components by correlation with Varimax rotation, and weighted kappa coefficient for test-retest were calculated to analyse the reliability of RCQ.

RESULTS AND DISCUSSION

Sample description

In the primary health care centre, 144 out of 780, whereas in Hospital La Paz, 103 out of 384, scored above AUDIT cut-off points (>7 , in women; >8 , in men). All 103 hospitalized patients and 107 primary care patients could be interviewed further. Nine of those in the primary care setting were then excluded, because of one of the above-mentioned exclusion criteria. The final sample consisted of: ABS Barceloneta (primary care): 98 patients; and H. La Paz (inpatients): 103 patients, i.e. a total of 201 patients).

Data on age, sex, work category and education level for patients at both sub-samples showed no significant differences between centres. Accordingly, data from the two centres were combined (Table 1). There was a predominance of male patients,

Table 1. Demographic characteristics of the sample

Parameter	Sample description (a)	
	No. of cases	Percentage
Sex		
Male	162	80.6
Female	39	19.4
Civil status		
Married/as couple	134	66.7
Single	38	18.9
Widow/separated/divorced	29	14.4
Economic status		
White collar	29	14.4
Blue collar	172	85.6
Working status		
Active	125	62.2
Unemployed	47	23.4
Retired/handicapped	29	14.4
Educational level		
Unfinished Primary School	62	30.8
Finished Primary School	99	49.3
High School	38	18.9
University studies	2	1.0
Days of alcohol consumption/week		
0–1	10	5.0
2	28	13.9
3–6	26	12.9
7	137	68.2
		Sample description (b)
Parameter	Mean	SD
Age (years)	46.0	10.7
Daily alcohol consumption (units)	6.3	3.9
Weekly alcohol consumption (units)	36.4	28.0
AUDIT score	12.4	3.5

AUDIT, Alcohol Use Disorders Identification Test.

active, manual workers of average educational achievements and a mean (\pm SD) age of 46.0 ± 10.7 years.

Test reliability

Internal consistency of RCQ. Following Rollnick *et al.* (1992), items representing each stage were regarded as scales capable of measuring to what extent the patient endorsed this stage of change. In calculating scale scores, the range of response points was deemed to run from -2 (strongly disagree) to $+2$ (strongly agree). Thus, the range within each scale varied between -8 through 0 to $+8$. Where there were missing data, the scale score was prorated, i.e. scored proportionate to the score of the completed items.

Reliability analysis showed the following mean scores on each scale: pre-contemplation scale: $-0.98 (\pm 3.46)$; contemplation scale: $0.75 (\pm 4.18)$; action scale: $0.29 (\pm 4.50)$.

Cronbach's alpha coefficient was calculated for the four items composing scale representing a stage of change. Within each scale, there was a positive relationship between every item, so that item scores can be regarded as constituting a scale: pre-contemplation: alpha 0.58 (0.73, in the English version); contemplation: alpha 0.75 (0.80, in the English version); action scale: alpha 0.80 (0.85, in the English version).

Factor analysis. Factor and conglomerate analysis (Table 2) gave the same type of results, showing three clearly identified components.

The hierarchical conglomerate analysis within the whole test (12 items) showed the following matching: items 3, 4, 8, 9 (items deemed to grasp the contemplation stage); items 2, 6,

7, 11 (items deemed to grasp the action stage); items 1, 5, 10, 12 (items deemed to grasp the pre-contemplation stage).

Factor analysis of the principal components of the questionnaire with Varimax rotation showed a clear factor structure corresponding to the three stages of change. When considered together, the three factors account for 57.4% of the total variance.

This internal consistency can also be observed on the graphical representation (see Fig. 1) of components in rotation space, where there appear three factors accounting each for: (1) action, 23.6% of the variance; (2) contemplation, 18.3% of the variance; (3) pre-contemplation, 15.6% of the variance.

Test-retest. RCQ was administered twice, after an interval of 2 days to 35 patients. Between the two test administrations, the weighted kappa coefficient was 0.82. Pearson correlation showed a significant relationship between first and second administration for each scale: pre-contemplation (P, $r = 0.81$), contemplation (C, $r = 0.87$) and action (A, $r = 0.86$).

Allocation to stage of change

Allocation of patients to one of the stages of change was based on the possible different response patterns, according to its positive or negative sign on each of the three scales (P; C or A). Definitive allocation of subjects to each stage was established according to the highest raw score obtained among the three scales (disregarding its positive or negative value). In the case of a tie between two adjacent scale scores, the subject was allocated to the stage farther along the continuum, following the authors' recommendation to assume that the patient had reached the furthest point in the change process. Theoretically, no

Table 2. Item loading for the first three components extracted from Varimax rotation with percentage variance accounted for by each (global sample)

Items (Spanish version*)	Components		
	I Action (A) (23.6%)	II Contemplation (C) (18.3%)	III Pre-contemplation (P) (15.6%)
1. 'Yo no bebo demasiado' (P)	0.01	-0.37	0.42
2. 'Estoy tratando de beber menos de lo que acostumbraba' (A)	0.63	0.27	-0.11
3. 'Me gusta beber, pero a veces bebo demasiado' (C)	-0.06	0.74	-0.14
4. 'A veces pienso que debería reducir mi consumo de alcohol' (C)	0.24	0.79	-0.23
5. 'No vale la pena pensar en lo que bebo' (P)	-0.27	-0.13	0.70
6. 'Recientemente he cambiado mis hábitos de bebida' (A)	0.81	0.02	-0.21
7. 'Cualquiera puede manifestar su intención de hacer algo en relación con la bebida, pero yo ya estoy haciéndolo' (A)	0.81	0.08	-0.03
8. 'Creo que ha llegado el momento en que debería plantearme beber menos' (C)	0.47	0.66	-0.28
9. 'A veces, mi consumo de alcohol es un problema' (C)	0.41	0.56	0.11
10. 'No tengo ninguna necesidad de cambiar mi consumo de bebidas alcohólicas' (P)	-0.15	-0.13	0.70
11. 'Precisamente ahora estoy cambiando mis hábitos de bebida' (A)	0.75	0.15	-0.30
12. 'Beber menos alcohol no tendría sentido para mí' (P)	-0.07	-0.05	0.63

* English translation: 1. 'I don't think I drink too much' (P). 2. 'I am trying to drink less than I used to' (A). 3. 'I enjoy my drinking, but sometimes I drink too much' (C). 4. 'Sometimes I think I should cut down on my drinking' (C). 5. 'It's a waste of time thinking about my drinking' (P). 6. 'I have just recently changed my drinking habits' (A). 7. 'Anyone can talk about wanting to do something about drinking, but I am actually doing something about it' (A). 8. 'I am at that stage where I should think about drinking less alcohol' (C). 9. 'My drinking is a problem sometimes' (C). 10. 'There is no need for me to think about changing my drinking' (P). 11. 'I am actually changing my drinking habits right now' (A). 12. 'Drinking less alcohol would be pointless for me' (P).

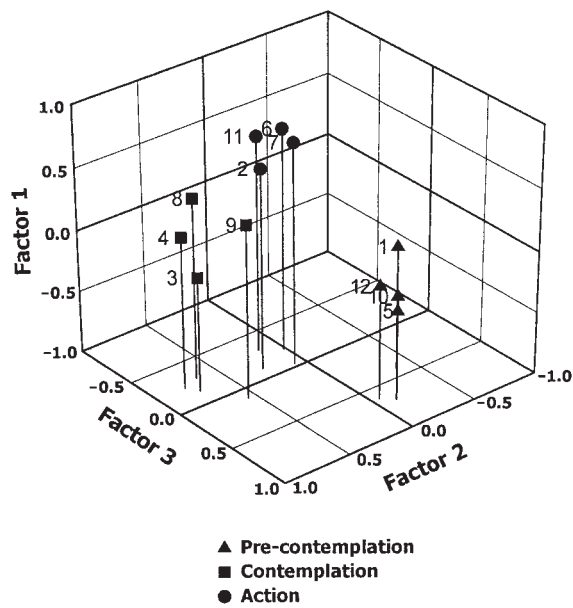


Fig. 1. Plot of the three loading factors for the Varimax-rotated solution. Numbers in graph represent the twelve questions in the Readiness to Change Questionnaire (global sample).

ties should occur between opposite scales (pre-contemplation and action) or between all three scales. In this Spanish study, 24 ties were detected (including six ties between pre-contemplation and action). Thus, the 201 subjects were allocated as follows: 81 on action scale (40.3%); 78 on contemplation scale (38.8%); 42 on pre-contemplation scale (20.9%).

The pre-contemplation scale showed a negative correlation with contemplation and action scales. As regards concurrent validation, agreement with the RCQ assessed as weighted kappa was 0.44 with expert A and 0.52 with expert B. Between A and B experts weighted kappa was 0.92 ($n = 201$).

Variables' influence on the questionnaire scales

The selected variables (AUDIT score, alcohol consumption, sex and expert's judgement) were crossed with the following result (Table 3 shows the AUDIT mean score for each allocation stage). ANOVA check for the three groups showed significant main effects ($F = 8.6, df = 2.198; P < 0.001$) and, using *post hoc* Dunnett's test C, statistically significant differences between contemplation and action. Scores were coherent with the foreseen target population: heavy drinkers, with or without added problems but without suspected dependence.

Concerning the relationship between stage of change, measured by RCQ, and alcohol consumption (see Table 3),

Table 3. Mean Alcohol Use Disorders Identification Test (AUDIT) scores and alcohol consumption levels among allocation stage according to Readiness to Change Questionnaire

Group	Alcohol consumption	
	AUDIT score Mean ± SD	(units/week) Mean ± SD
Pre-contemplation	12.1 ± 3.0	34.1 ± 19.5
Contemplation	13.5 ± 3.7	43.6 ± 34.5
Action	11.4 ± 3.1	30.7 ± 23.3
Total	12.4 ± 3.5	36.4 ± 28.0

analysis of variance of alcohol intake for the different stages of change showed a significant difference between groups ($F = 4.5, df = 2.198; P < 0.05$), action patients reporting lower drinking than other patients.

Contemplation and action scales were different concerning alcohol consumption based on Scheffé's *a posteriori* test, with a higher consumption in those on contemplation.

Among patients with a tie in scores belonging to different stages, a PC (pre-contemplation = contemplation) tie was observed mainly in patients with a high alcohol consumption (83%). Of subjects with a PA (pre-contemplation = action) tie, 66.7% show a low alcohol intake. Subjects with CA (contemplation = action) tie showed either low, medium or high consumption. Of PCA ties (pre-contemplation = contemplation = action), 66.7% had a low consumption.

No significant differences were observed concerning total RCQ scores and sex. When both sexes are separately considered, stage of change calculated by RCQ compared to expert's blind external judgement revealed that agreement was greater in women (weighted kappa 0.56) than in men (weighted kappa 0.41).

In the Spanish version of the RCQ, the three loading factors account for 57.4% of the total variance, a somewhat smaller percentage than the Australian sample, where the first three factors together account for 68.6% of total variance: 46.1% for the action component; 12.6% for the contemplation component, and 9.9% for the pre-contemplation component. Nevertheless, when comparing explained variance for each scale between the original version and the Spanish one, we observed that variance was higher in the English version (23.6% compared to 46.1%) only for the action scale, whereas explained variances for pre-contemplation and contemplation scales were superior in the Spanish sample (15.6% vs 9.9%, 18.3% vs 12.6%, respectively).

Internal consistency was observed between items belonging to the same scale. Relationship between adjacent scales (contemplation and action) was significantly greater than between non-adjacent scales, as was the case in the original version.

Though adequate, Cronbach values were smaller than those obtained by the original authors, especially for the pre-contemplation scale (0.58), with better results with progressing stage of change (contemplation and action). The concurrent validity, when facing the instrument with external validation criteria, gave a limited kappa value (0.44 with expert A and 0.52 for expert B).

Understanding the questionnaire is not easy, especially when it deals with double negative formulations. Nevertheless, rewording the items would have changed the original instrument.

Discrepancies between test and expert judgement were highest in those patients positively scoring in more than one scale, especially when these were adjacent (contemplation-action).

Ties and discrepancies between RCQ classification and external experts' judgement made us consider response patterns also, a possibility not previously foreseen, because of the opinion of the original authors that raw scores were more operative. Anyway, discrepancies between both ways of evaluating the test (total scores and score patterns) were not as noteworthy as those between test and experts' blind judgement. We therefore considered that it did not make sense to use the refined method (to diagnose through patterns), but, instead, to use the global score of the short

RCQ. The authors of the English version reached a similar conclusion.

In the light of the limited concurrent validity of RCQ in this study, we considered four possible confounding factors:

(1) The test's structure itself, with three possible scales where readiness to change is indistinguishable from action and there is no maintenance scale, may have contributed to a wrong allocation of those patients who 'didn't find their place'. The lack of a delimited 'readiness to change or preparation stage' seems not to be a problem. This is probably due to its position between the adjacent scales of contemplation and action, which follow each other without any gap and also because of solving any tie by allocating the patient in the most advanced stage.

Patients in the maintenance stage might have been more problematic. Some of them had been included in the sample, because the AUDIT was used as our screening tool. AUDIT is capable of detecting alcohol-related problems occurring in the last 12 months among patients who are now light drinkers or not drinking any longer. These patients could have been located both in the action scale or in the pre-contemplation scale, depending on their current attitude (believing that they are still 'doing something' concerning their drinking or perhaps considering that they have no problems and have already 'turned a page'). To reframe the questionnaire by adding a fourth scale for maintenance goes beyond the aim of a validation study. Because the test is supposed to have been designed for pointing out the most suitable intervention after an opportunistic detection, theoretically RCQ would not be given to patients in the maintenance stage.

(2) Abstainers or patients with low alcohol consumption (38.3% of the sample) might be responsible for the test's poor concurrent validity. To control for this possible confounding factor, the principal component analysis was repeated for a sub-sample made up of only those patients of a moderate to high

risk consumption (>21 units/week and >35 units/week, in women and men respectively). This did not improve the global accumulated variance (57.5), each factor accounting respectively for the following percentage variance: action: 25.2%; contemplation: 17.1%; pre-contemplation, 15.2% (Table 4).

(3) The deficiencies of the test in this study might be attributed to patients with unfinished primary school. Their tentative suppression scarcely improved concurrent validity (κ 0.47 and 0.57). This suppression modified the item loading for the first three components and the percentage variance accounted for by each with a cumulative percentage of 61.0 (Table 5). Nevertheless, the resulting scales were thereby worse delimited from each other, when compared to the original analysis over the total sample. Moreover, a valid self-completed questionnaire has to be understandable for the general population with the only exclusions being illiterates. We also know that some patients might be 'functional illiterates', mainly in some underprivileged areas, but it would be difficult to sort out those unable to fill in the questionnaire.

(4) Illogical response patterns (Rollnick *et al.*, 1992) could account for differences between expert and RCQ. Theoretically, concurrent validity might help eliminating those patients with illogical patterns (A, B, C and H). Admitting only the logical ones (D, E, F, G) there is a slight increase in the total explained variance, with a cumulative percentage of 60.9. Nevertheless, rotated components matrix shows that, in this case, specific loading of each item accounted respectively for: action: 24.3%; contemplation: 20.2%; pre-contemplation: 16.4%. The resulting scales were thus worse delimited from each other, when compared to the original analysis over the total sample (Fig. 2).

In conclusion, RCQ might be used for a rapid allocation of patients, provided that possible errors are considered and priority is given to clinical judgement in cases of illogical ties

Table 4. Item loading for the first three components extracted from Varimax rotation with percentage variance accounted for by each (men consuming >35 alcohol units/week and women >21 units/week)

Items	Components		
	I Action (A) (23.6%)	II Contemplation (C) (18.3%)	III Pre-contemplation (P) (15.6%)
1. 'Yo no bebo demasiado' (P)	0.08	-0.23	0.59
2. 'Estoy tratando de beber menos de lo que acostumbraba' (A)	0.54	0.33	-0.15
3. 'Me gusta beber, pero a veces bebo demasiado' (C)	-0.001	0.79	-0.06
4. 'A veces pienso que debería reducir mi consumo de alcohol' (C)	0.22	0.78	-0.33
5. 'No vale la pena pensar en lo que bebo' (P)	-0.43	-0.08	0.61
6. 'Recientemente he cambiado mis hábitos de bebida' (A)	0.80	0.06	-0.26
7. 'Cualquiera puede manifestar su intención de hacer algo en relación con la bebida, pero yo ya estoy haciéndolo' (A)	0.81	0.09	0.05
8. 'Creo que ha llegado el momento en que debería plantearme beber menos' (C)	0.56	0.61	-0.26
9. 'A veces, mi consumo de alcohol es un problema' (C)	0.47	0.51	0.10
10. 'No tengo ninguna necesidad de cambiar mi consumo de bebidas alcohólicas' (P)	-0.15	-0.06	0.66
11. 'Precisamente ahora estoy cambiando mis hábitos de bebida' (A)	0.79	0.11	-0.22
12. 'Beber menos alcohol no tendría sentido para mí' (P)	-0.10	-0.20	0.59

For the English equivalent of this Spanish version, see the legend to Table 2.

Table 5. Item loading for the first three components extracted from Varimax rotation with percentage variance accounted for by each (patients with educational level of at least 'Finished Primary School')

Items	Components		
	I Action (A) (27.1%)	II Pre-contemplation (P) (17.5%)	III Contemplation (C) (16.4%)
1. 'Yo no bebo demasiado' (P)	-0.03	0.23	-0.57
2. 'Estoy tratando de beber menos de lo que acostumbraba' (A)	0.65	-0.22	0.17
3. 'Me gusta beber, pero a veces bebo demasiado' (C)	0.06	-0.03	0.82
4. 'A veces pienso que debería reducir mi consumo de alcohol' (C)	0.42	-0.29	0.66
5. 'No vale la pena pensar en lo que bebo' (P)	-0.28	0.80	-0.03
6. 'Recientemente he cambiado mis hábitos de bebida' (A)	0.71	-0.42	0.05
7. 'Cualquiera puede manifestar su intención de hacer algo en relación con la bebida, pero yo ya estoy haciéndolo' (A)	0.83	-0.04	-0.008
8. 'Creo que ha llegado el momento en que debería plantearme beber menos' (C)	0.66	-0.25	0.49
9. 'A veces, mi consumo de alcohol es un problema' (C)	0.57	0.12	0.43
10. 'No tengo ninguna necesidad de cambiar mi consumo de bebidas alcohólicas' (P)	-0.26	0.57	-0.19
11. 'Precisamente ahora estoy cambiando mis hábitos de bebida' (A)	0.75	-0.37	0.09
12. 'Beber menos alcohol no tendría sentido para mí' (P)	-0.02	0.75	-0.22

For the English equivalent of this Spanish version, see the legend to Table 2.

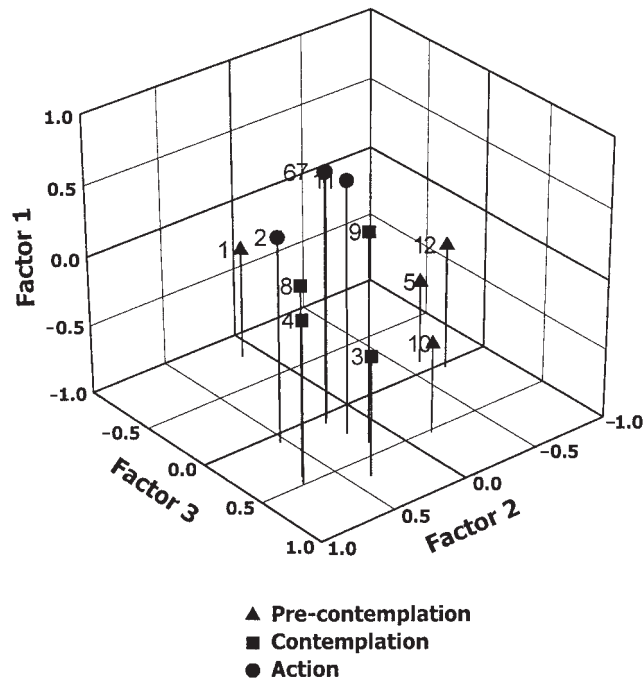


Fig. 2. Plot of the three loading factors for the Varimax-rotated solution for logical patterns: D, E, F, G. See discussion d, Rollnick *et al.* (1992). Numbers in graph represent the twelve questions in the Readiness to Change Questionnaire.

or discrepancies. The slightly different performance of the test according to educational level has to be taken into account. However, the instrument has deficiencies which limit its

practical usefulness. To overcome these deficiencies would probably necessitate redesigning the whole test — a task that goes far beyond the limits of a validation study which has aimed merely to translate and to adapt the RCQ to another language and culture.

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