

Psychometric Properties of The Curative Climate Questionnaire-Turkish Version

İyileştirici Ortam Anketi Türkçe çevirisinin Psikometrik Özellikleri

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SUMMARY

Objective: The Curative Climate Questionnaire measures the curative factors in group psychotherapy. The Curative Climate Questionnaire has three subscales: Cohesion, Insight, and Catharsis. These three factors are suggested to be the main curative factors implicated in progress in group psychotherapy. Even though group psychotherapy is an effective method in providing services to alleviate psychological difficulties, the resources which measure curative factors, group dynamics or processes are limited in Turkey. This study aimed to translate and adapt the Curative Climate Questionnaire into Turkish to allow for its future uses in clinical and research settings. **Method:** Fifty psychotherapists were administered the Curative Climate Questionnaire and Multidimensional Relationship Questionnaire on the fourth day of the group psychotherapy training. The training had didactic, supervision, and experiential parts. Factor structure was analyzed by employing Principal Component and Confirmatory Factor Analyses. **Results:** Turkish version of the Curative Climate Questionnaire had a three factor structure similar to the English version. Three items were omitted for the data to fit the model. The Cronbach Alpha level for Insight was .87, for Catharsis was .88, and for Cohesion was .84. Criterion validity was established by the Multidimensional Relationship Questionnaire. **Conclusion:** The findings showed that the Curative Climate Questionnaire Turkish version had good reliability and validity. The findings supported inclusion of the Catharsis subscale in the Curative Climate Questionnaire.

Key Words: Curative Climate Questionnaire, cohesion, insight, catharsis, group psychotherapy.

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ÖZET

Amaç: İyileştirici Ortam Anketi grup psikoterapisindeki iyileştirici faktörleri ölçer. İyileştirici Ortam Anketi'nin üç alt ölçeği bulunmaktadır: Uyum, İlgörü ve Katharsis. Bu faktörlerin, grup psikoterapisinde ilerlemeyi sağlayan temel iyileştirici faktörler oldukları belirtilmiştir. Grup psikoterapisi psikolojik sıkıntıları hafifletmek için etkin bir yöntem olmasına karşın, Türkiye'de iyileştirici faktörleri, grup dinamikleri ve grup süreçlerini ölçen kaynak ve ölçekler çok sınırlıdır. Bu çalışma, İyileştirici Ortam Anketi'ni Türkçe'ye çevirerek ve uyarlayarak ileride araştırma ve klinik ortamlarda kullanılmasını sağlamayı hedeflemiştir. **Yöntem:** İyileştirici Ortam Anketi ve Çokboyutlu İlişki Ölçeği, grup psikoterapisi eğitiminin dördüncü gününün sonunda elli psikoterapistte uygulanmıştır. Grup psikoterapisi eğitimi teorik, süpervizyon ve deneyimsel kısımlardan oluşmuştur. Ölçeğin faktör yapısı, Temel Bileşenler Analizi ve Doğrulayıcı Faktör Analizi ile incelenmiştir. **Bulgular:** İyileştirici Ortam Anketi'nin Türkçe adaptasyonunda, ölçeğin orijinaline benzer şekilde üç faktör bulunmaktadır. 3 madde ölçekten çıkarıldığında veriler modele en iyi şekilde uymuştur. Cronbach Alfa katsayısının İlgörü için .87, Katharsis için .88, Uyum için .84 olduğu gözlenmiştir. Ölçeğin yakınsak geçerliği Çokboyutlu İlişki Ölçeği ile sağlanmıştır. **Sonuç:** Bulgular, İyileştirici Ortam Anketi'nin geçerli ve güvenilir olduğunu göstermiştir. Bulgular, Katharsis alt ölçeğinin İyileştirici Ortam Anketi'nde içerilmesini işaret etmiştir.

Anahtar Sözcükler: İyileştirici Ortam Anketi, uyum, içgörü, katarsis, grup psikoterapisi.

INTRODUCTION

Eleven curative therapeutic factors defined in the group psychotherapy literature were installation of hope, universality, imparting information, altruism, the corrective recapitulation of the primary family group, development of socializing skills, imitative behavior, interpersonal learning, cohesiveness, catharsis, and existential factors (1,2,3,4). These factors were noted to be the cognitive, behavioral, and emotional aspects of change process in psychotherapy. Catharsis, insight, interpersonal learning and cohesion were valued above the remaining factors (5,6,7). These four factors were suggested to be inclusive of the other factors (8). The Curative Climate Questionnaire (CCI) has been developed by Fuhrman et al. (8) to assess the concept of curativeness in group psychotherapy. The CCI includes three subscales: Cohesion, insight, and catharsis. Interpersonal learning did not emerge as a distinct factor in the CCI. Cohesion has been the most frequently studied factor among the three. This study aimed to adapt the CCI into Turkish. Relevant literature regarding the CCI factors was explained below.

Cohesion was group therapy analogue to relationship in individual therapy (4). It was defined as basic bond to the group, to the therapist, and to the other group members or a uniting force (9,10,11), a sense of solidarity or we-ness (4). A meta-analysis of the relationship between cohesion and treatment outcome in 40 studies indicated a significant correlation between cohesion and outcome (11). Cohesion facilitated greater self-disclosure, risk taking and constructive expression of conflict in group, group self-esteem, hope for the self, and wellbeing. It allowed clients to express and explore themselves, and relate more deeply to others. It increased group attendance and was associated with lower levels of turnover (4,12,13). Cohesion was necessary for other group factors to operate and it was the essential element for change and positive outcome in group psychotherapy (13). High levels of group cohesion was correlated with outcome among inpatients, those who made the most progress reported higher levels of group cohesion after the first few sessions (14). In a cognitive-behavioral therapy study for binge-eating disorder,

overall prevalence of positive group climate was associated with patient change (15). Group cohesiveness facilitated collective self-esteem which was then directly and indirectly related to well-being (16). In group psychotherapy with psychotic patients, cohesion was the most valued therapeutic factor (17). A variety of variables including age, theoretical orientation, length, size of group have, interpersonal style, and personality factors worked as moderator variables predicting the magnitude of correlation between cohesion and outcome (7,18,19,20,21,22,23).

Insight is characterized by an internal observation and defined as a process of clarification, explanation, and derepression. It takes place as one discovers something important about his or her behavior, interpersonal presentation (i.e. how others perceive him or her), motivational system (i.e. why they do what they do), genetic insight (i.e. developmental causes of their behavior), or unconscious (4). Yalom suggested actual change took place when patients gained insight via here and now in therapy (5). Along with existential factors, insight and catharsis were the most valued therapeutic factors in group psychotherapy for inpatients with alcohol dependence difficulties (24). In patients with neuroticism and personality disorders, insight emerged as the most important therapeutic factor (25).

Catharsis is the release of emotionally suppressed material (8,26). Freud believed catharsis rescued patients from the hysterical symptoms by allowing expression of pathological impressions and affect (27). Catharsis was among the highest valued factors in group therapy for incest survivors, offenders' groups, men's groups, faculty encounter groups, children of families with substance dependence, and individuals with substance abuse problems (5, 28,29,30,31,32,33,34). Catharsis was associated with good outcome when individuals had difficulty with expressing feelings (35). Catharsis was shown to be effective when it was accompanied by a cognitive element, such as insight into one's own condition (36). Emotional expression led to owning an emotion which subsequently facilitated a shift of locus of control from external to internal. Therefore, one might say catharsis led to insight (37). A new learning about experiences protected participants with

high emotional arousal from having negative outcomes in psychotherapy (38). Emotional expression along with self-understanding was associated with heightened immune function among college students (39).

Psychometric properties of the CCI

The CCI showed moderately high internal reliability. Cronbach Alpha levels ranged from .87-.93 for cohesion, .81-.87 for catharsis, and .79-.84 for insight (8, 40). However, later studies reported lower reliability figures; .79 for cohesion, .70 for catharsis, and .34 for insight (26). Factor structure of the CCI was suggested to be less clear than it was originally suggested by Fuhrman et al. (8). One study showed Catharsis items did not load on a distinct factor. Therefore, it had to be excluded from the factor analysis to find a good fit (40).

Purpose of this study

The CCI is on the list of the American Group Psychotherapy Association CORE-R battery list, which is a list for practitioners to track group psychotherapy processes in daily practice (41). Even though many studies show group psychotherapy as an effective method to reduce psychological difficulties (1,2), the resources which measure group dynamics or process are limited in Turkey. To the best of our knowledge, there are no group measures, which assesses members' perceptions of group climate during psychotherapy process in Turkey. The translation and adaptation of the CCI into Turkish is expected to fill a space in the group psychotherapy practice and research in Turkey. This study also aimed to examine the factor structure of the CCI and to examine whether Catharsis would emerge as a distinct factor under the CCI. The Turkish adaptation was expected to have a three factor structure, good validity and reliability.

METHOD

Participants

The participants were fifty psychotherapists with a mean age of 29 (SD=4.96). Aged ranged from 22 to 47. Eighty-two were female; 62% were single. The participants were clinical psychologists, counselors, and a psychiatric nurse. They were either students or practicing clinicians. Seventy-two percent were students; %51 pursued a doctoral degree and %49 pursued a master's degree. Eighty-four percent were in clinical psychology, 10% were in psychological guidance and counseling, 2% were in psychiatric nursing, and 4% in forensic psychology. Sixty-four percent had a personal individual psychotherapy experience. Mean years of individual psychotherapy practice experience was 3.84 (SD=3.63). Forty percent had provided group psychotherapy before, with range of 0 to 12 (M= 1.18, SD=2.36).

Measures

The Curative Climate Questionnaire (CCI, 8). The CCI measures usefulness of therapeutic factors in group psychotherapy (40). The CCI consists of 14 items and 3 subscales: Catharsis, Cohesion, and Insight. The Catharsis subscale measures emotionally loaded material which has been suppressed or controlled. The items included under the Catharsis are saying what is bothering the individual instead of holding it in (item 1), learning to express feelings (item 5), expressing feelings toward other persons in the group (item 9), expressing feelings even though being uncertain (item 11), and learning how to share honestly perception of group members (item 14).

The Cohesion subscale measures usefulness of the group elements which hold the group together (40). The items included under the Cohesion are a sense of belonging to and being valued by a group (item 2), feeling less alone and more included in the group (item 3), having continued close contact with other people (item 6), belonging to a group of people who understand and accept the individual (item 8), and belonging to a group an individual likes (item 12).

The Insight subscale includes helpfulness of experiencing and understanding oneself in a new way (40). The items included under the Insight are learning that one reacts to some people or situations unrealistically with feelings that somehow belong to earlier periods in life (item 4), learning how one blocks off his or her feelings towards others in the present (item 7), discovering and accepting previously unknown or unacceptable parts of the self (item 10), and learning why one thinks and feel the way he or she does (item 13). Psychometric properties of the CCI were described above.

The Multidimensional Relationship Questionnaire (MRQ, 42). The MRO measures one's psychological tendencies regarding intimate relationships from a personal standpoint. It examines one's own perception of his or her relationships in general from various perspectives. It has 12 subscales with high reliability. The Cronbach alphas ranged from .68 to .93. Turkish adaptation of the MRQ indicated it had 8 subscales including Extreme Focus on Relationships, Relationship Satisfaction, Fear of Relationships/Relational Anxiety, Relational Monitoring, Relational Esteem, External Relational Control, Relational Assertiveness, and Internal Relational Control (44). The Cronbach Alpha was .81, test-retest reliability coefficient was .80. The Turkish translation established criterion validity with the Relationship Assessment Scale (43). The Cronbach Alpha was .86 in this study.

Procedure

Ethical approval was obtained from the Institutional Social Sciences Review Board. The participants were recruited from e-mail groups whose members were psychologists. All participants provided informed consent prior to the study. The participants were offered an expanded version of the AGPA Certified Group Psychotherapist training, which lasted for four days and 30 hours. The training consisted of three main components: Didactic training, group screening or group supervision, and experiential group psychotherapy. Didactic topics were covered in the morning section of the training on four consecutive mornings. The group screening demonstration was provided

on the first afternoon. For the next 3 afternoons, a participant presented an ongoing or completed group case, which was followed by group supervision. Group screening and group supervision lasted for an hour. Process oriented experiential group psychotherapy was provided in the afternoons on each training day. The process group and feedback session lasted 2 hours 15 minutes each day. Participants completed the questionnaires on the last day of training.

The instructor was an experienced AGPA Certified Group Psychotherapist with a group psychotherapy practice and training experience of over 25 years. The goals of the didactic training were fulfilling 12 hours of course work required for certification by the International Registry of Certified Group Psychotherapists; developing an understanding of the theoretical foundations of group psychotherapy practice; developing a understanding of fundamental group dynamics and process; learning how to use the group psychotherapy treatment modality in order to change and improve the patient's level of psycho-social functioning; and learning methods to lead a psychotherapy group according to the highest ethical standards of the mental health profession.

Data Analyses

Intraclass Correlation Coefficient (ICC) Two-Way Random with Absolute Agreement was computed to establish interrater reliability of the Turkish translation of the CCI. Principal Component Analysis (PCA) with varimax rotation was computed to examine the factor structure of the CCI. The Confirmatory Factor Analyses (CFA) were computed to examine the best fit of the data to the model. AMOS 20 was used to assess the parameters of the model. Goodness-of-fit indices consisted of χ^2 (to assess the fit between the hypothesized statistical model and the set of observed variables or items) and its subsequent ratio with degrees of freedom (CMIN/df), root mean square error of approximation (RMSEA), goodness-of-fit index (GFI), parsimony-adjusted goodness of fit (PGFI), comparative fit index (CFI), parsimony-adjusted comparative of fit (PCFI) and probability of close fit (PCLOSE). For RMSEA, values less than .05

indicated a good fit, values between .05-.08 indicated a reasonable fit, and values between .08 and .10 indicated mediocre fit. A RMSEA value above .10 indicated a poor fit. A CFI value greater than .90, a CMIN/df ratio of 3 or less, and a PCLOSE value greater than .05 indicated a good fit. The GFI, PGFI and PCFI values approaching to 1 indicated a good fit. The main fit indices in interpreting the CFA findings were reported to be the CFI, RMSEA and CMIN/df values (45, 46). Cronbach's Alpha value was computed to investigate reliability of the CCI. The MRQ and the CCI subscales were correlated to establish convergent and divergent validity of the CCI.

RESULTS

Translation procedure

Permission was granted to translate and adapt the CCI into Turkish (47). Guidelines for cross-cultural adaptation of self-report measures were followed during adaptation of the CCI-T (Curative Climate Instrument- Turkish version) (48). The first step was forward translation from English to Turkish. Two bilingual translators who were proficient in both culture and language provided forward translations. Translators were fluent in the source language of the instrument and native in the target language. First translator who was a clinical psychologist functioned as an informed translator

and was familiar with the concepts of the CCI. Second translator, who was unfamiliar with psychology, functioned as the uninformed translator. Two translators collaborated to synthesize their initial translations at the second stage. Back translation was made at the third stage to make sure the translation reflected same item content as the original version and to determine whether there was ambiguity in the translations. Two back translators were unfamiliar with the outcome measure and they were not specialized in psychology. The translations were consolidated by the four translators and two additional clinical psychologists. Final version of the CCI-T was administered to 6 individuals to interview them about the meanings of the items and chosen responses at stage five. This stage helped to assure that the adapted version maintained its equivalence in an applied situation (48).

Content validity

Three clinical psychologists, with an average of 7 years of psychotherapy experience, reviewed and identified the items which would load under the three factors. There was a perfect agreement on 12 items, there was a 67% agreement in two items. In order to estimate interrater reliability on the CCI-T, Intraclass Correlation Coefficient (ICC) Two-Way Random with Absolute Agreement was computed. Interrater reliability was $r=.98$, $p=.00$., showing an excellent concurrence rate among the

Table 1. Factor loadings of the CCI according to Principal Component Analysis

Factors and Items	Factor 1	Factor 2	Factor 3
Learning how I block off my feelings towards others in the present (item 7)	.87	.12	-.01
Learning that I react to some people or situations unrealistically with feelings that somehow belong to earlier periods in my life (item 4)	.78	.15	.21
Discovering and accepting previously unknown or unacceptable parts of myself (item 10)	.77	.33	.32
Learning how to express my feelings (item 5)	.70	.58	.07
Learning why I think and feel the way I do (i.e., learning some of the causes and sources of my problems) (item 13)	.68	.27	.48
Expressing negative and or positive feelings toward other persons in the group (item 9)	.38	.81	.07
Being able to say what was bothering me instead of holding it in (item 1)	.10	.73	.43
Expressing my feelings even though I am uncertain (item 11)	.32	.68	.29
Continued close contact with other people (item 6)	.18	.65	.28
Learning how to share, in an honest and responsible way, how group members are coming across to me (item 14)	.49	.63	.20
Belonging to a group of people who understood and accepted me (item 8)	.17	.22	.81
Belonging to a group I liked (item 12)	.16	.07	.80
Belonging to and being valued by a group (item 2)	.04	.49	.76
Feeling less alone and more included in a group (item 3)	.27	.34	.63

Table 2. Fit Models of the CCI according to Confirmatory Factor Analyses

Model tested	CMIN/df	Goodness of fit indices					
		RMSEA	GFI	PGFI	CFI	PCFI	PCLOSE
Model 1	1.98	.14	.72	.51	.84	.69	.00
Model 2	1.98	.14	.72	.51	.84	.69	.00
Model 3	1.32	.08	.85	.52	.96	.70	.21
Model 4	1.22	.07	.89	.48	.98	.65	.35

interraters.

(49).

Principal Component Analysis for the CCI-T

Kaiser-Meyer-Olkin (KMO) value was computed to test for sample size sufficiency. The KMO was .84 which indicated that distribution of values was meritorious for conducting factor analysis. A significant Bartlett's test of sphericity value of .84 at $p=.00$ level indicated multivariate normality of the distribution and was acceptable for factor analysis

The CCI-T factors with Eigen values greater than 1 were considered to be significant. PCA with varimax rotation showed there were three factors with values greater than 1. Three factors explained 71% of the variance. First factor explained 51% of the variance, second factor explained 12% of the variance, and the third factor explained 8% of the variance. Factor loadings ranged from .63 to .87. Rotated Component Matrix showed items 4, 5, 7, 10, and 13 were grouped under factor Insight; items

Figure 1. Confirmatory Factor Analysis of the CCI -T

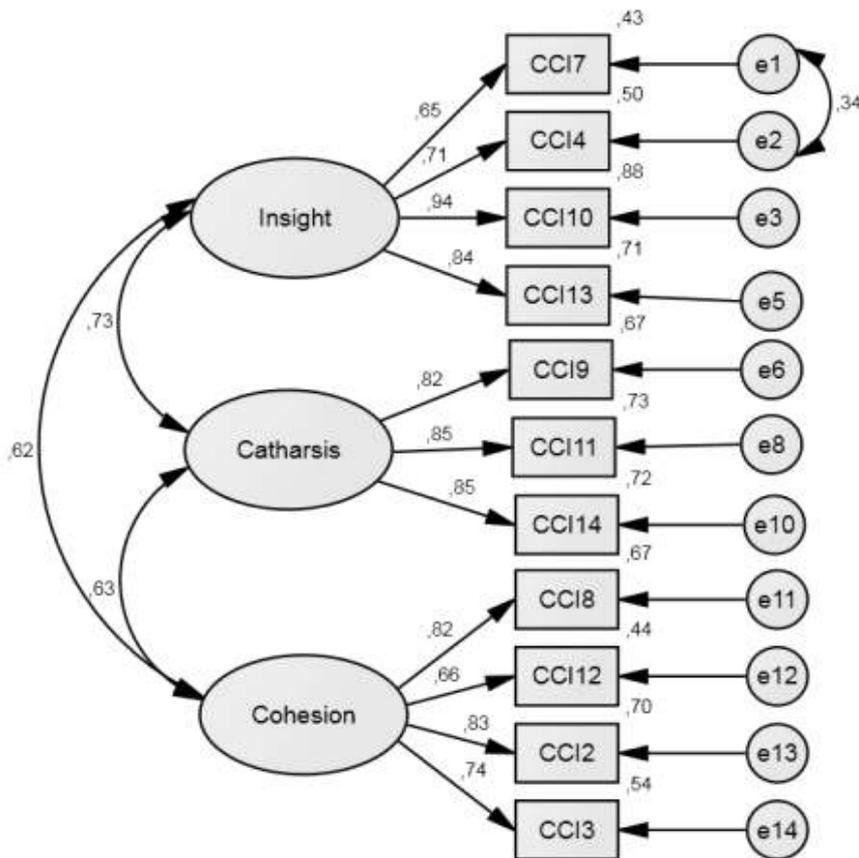


Table 3. Correlation Coefficients of the CCI-T subscales and the MRO subscales

The MRO subscales								
	1	2	3	4	5	6	7	8
Catharsis	-.09	.01	-.02	-.09	.16	-.17	.22	-.02
Cohesion	.07	.27**	.13	.13	.35*	-.10	.29*	-.01
Insight	.01	.05	.10	-.12	.06	-.04	.21	-.09

Note.

* Coefficients are significant at $p \leq .05$.

**Coefficients are significant at $.05 < p < .06$.

1, 6, 9, 11, and 14 were grouped under factor Catharsis; and items 2, 3, 8, and 12 were grouped under Cohesion as shown in Table 1. Unlike expectations, item 5 loaded highly on both Insight and Catharsis. Item 6 loaded on Catharsis, rather than Cohesion.

Confirmatory Factor Analysis for the CCI-T

On the CFA, first model was based on the original factor structure of the CCI. Items 4, 7, 10, and 13 were hypothesized as being function of the construct Insight; items 1, 5, 9, 11 and 14 were hypothesized as being function of the construct Catharsis; items 2, 3, 6, 8 and 12 were hypothesized as being function of the construct Cohesion. As shown on Table 2, the fit indices were not accep-

table and support was not found for the hypothesized model, $\chi^2=146,41$, $p < .05$. (Model 1). Next, the model emerged in the PCA was tested. The fit indices were not acceptable and support was not found for the model, $\chi^2 = 146.13$, $p < .05$ (Model 2).

Unlike expectations, item 6 loaded on Catharsis, rather than Cohesion on the PCA. On the CFA, item 6 had the lowest loading on Cohesion (.60). While Catharsis items had factor loadings between .80 to .84 on the CFA, item 1's factor loading was .67. As a third model, item that failed to load on the subscale they were intended to load (item 6) and item which loaded on two factors (item 5) were excluded. Item 1, which had the lowest loading on Catharsis, was removed from the model. After item error covariances were allowed between e1 and e2, support was found for the hypothesized 3 factor

Figure 2. Confirmatory Factor Analysis of the CCI -T without Catharsis Subscale

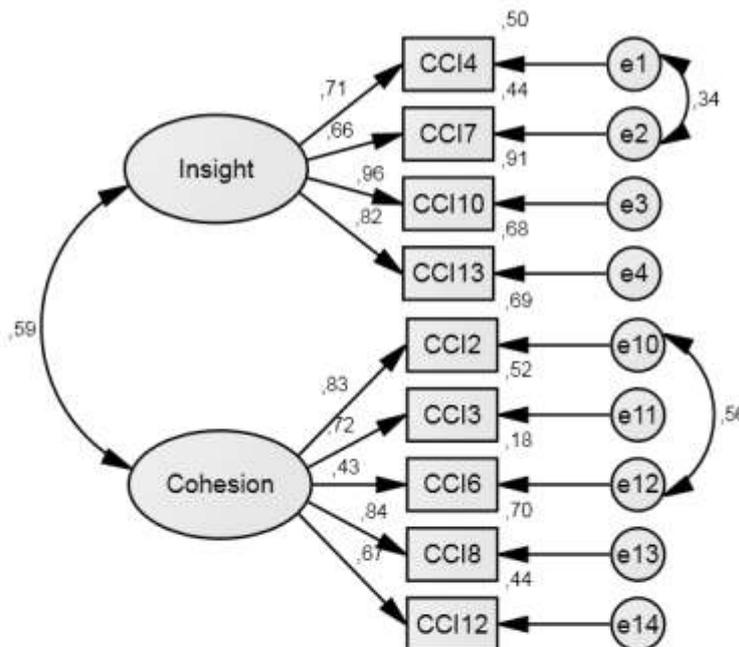


Table 4. Item-Total Correlations for the CCI-T

		Item-Total Correlation
Catharsis	Item 9	.75
	Item 11	.60
	Item 14	.72
Cohesion	Item 2	.67
	Item 3	.72
	Item 8	.73
	Item 12	.35
Insight	Item 4	.70
	Item 7	.80
	Item 10	.83
	Item 13	.77

model, $\chi^2=52,76$, $p>.05$, and fit indices were acceptable (Model 3).

A fourth model tested a model without the Catharsis subscale, where the data fit the model after allowing covariances between e1 and e2, and e10 and e12, $\chi^2=29,34$ $p>.05$, and fit indices were acceptable, (Model 4). The models 3 and 4 were presented in Figures 1 and 2, where the circles represent latent variables, and the rectangles represent measured variables.

Discriminant and Convergent Validity

The CCI-T and MRQ subscales were correlated. As shown on Table 3, the Cohesion subscale of the CCI-T was significantly positively correlated with the Relational Esteem subscale ($r=.35$, $p=.01$) and Relational Assertiveness ($r=.29$, $p=.05$) of the MRQ, providing evidence for convergent validity.

Reliability for the CCI-T

The Cronbach Alpha level for Insight subscale (items 4, 7, 10, and 13) was .87, the Cronbach Alpha level for the Catharsis subscale (items 9, 11, and 14) was .88, and the Cronbach Alpha level for the Cohesion subscale (items 2, 3, 8, and 12) was .84. Corrected item-total correlations were reported on Table 4.

DISCUSSION

This study adapted the CCI into Turkish to offer it to clinicians and researchers use in group psychotherapy. The translation process was operated according to cross-cultural adaptation instructions (48). The Intraclass Correlation Coefficient indicated good content validity. Psychometric properties of the CCI-T showed the Turkish adaptation had good validity and reliability to assess curative factors in group psychotherapy.

Factor structure of the CCI-T was investigated by both PCA and CFA and the findings converged after deleting 3 items. Both PCA and CFA findings revealed that the CCI-T had a three-factor structure including the Cohesion, Catharsis, and Insight subscales. The PCA revealed 71% of the variance was explained by the three factors. Factor loadings of the items ranged from .63 to .87. Items 2, 3, 8, and 12 were grouped under Cohesion; items 1, 6, 9, 11, and 14 were grouped under Catharsis; and items 4, 5, 7, 10, and 13 were grouped under Insight. In the original questionnaire, item 5 was grouped under Catharsis and 6 was grouped under Cohesion. However, during the PCA in this study, item 5 was grouped under Insight and item 6 was grouped under Catharsis. Furthermore, item 5 loaded highly on two factors. Item 6's loading on Catharsis was not theoretically sound and it had the lowest loading on Cohesion subscale on the CFA. While Catharsis subscale items had factor loadings between .80 to .84 on the CFA, item 1's factor loading was .67. When items 5 and 6 were removed, along with item 1 which had the lowest loading on Catharsis, and item error covariances were allowed between e1 and e2, the data fit the model, as shown on Model 3 in Table 2. The final model with 11 items showed adequate goodness of the fit statistics. A CMIN/df value below 3 and a CFI level of .96 indicated an acceptable model (50, 51, 52). A cutoff RMSEA value was .08, showing a mediocre fit (53).

Since the factor structure of the CCI has been a topic of discussion and there are questions regarding the inclusion of the Catharsis subscale in the CCI (40), this study examined the factor structure of the CCI without Catharsis in a Turkish sample.

The findings showed that from a psychometric standpoint, there was a little difference between the three-factor model, which included Cohesion, Catharsis and Insight, as opposed to the two-factor model, which included Cohesion and Insight. Therefore, one might suggest that including the Catharsis factor could give additional information regarding the curative factors in a given clinical or research population without greatly sacrificing the psychometric quality of the CCI-T.

This study established convergent validity with the MRQ. Group members' perception of a cohesive group was related to being assertive in relationships and a positive view of the self within a group of relationships. The reliability of the CCI-T subscales were above .70. It ranged from .84 to .88, which indicated all of the scales were reliable. In addition, all of the corrected item-total correlations were above .30 and all items adequately represented the subscale they belonged to.

This study has three limitations worth mentioning. First, there were fifty participants in this study. It was a challenge to recruit fifty psychotherapists for four full days for the study. Even though there is not an agreed upon sample size to compute CFA (54), a larger sample size might have provided stronger statistical power for data analyses (45). Second, findings of this study is limited to training groups. Even though, training groups can be therapeutic as they provide opportunity for therapeutic work (4), future studies with clinical populations are needed and that would help to validate the CCI

in Turkish clinical populations. Finally, this study utilized the MRQ to establish construct validity. Nonexistence of other clinical measures to assess group climate in psychotherapy in Turkish made it difficult to establish construct validity of the CCI. This study can hopefully help to establish validity while adapting or developing other group measures in Turkey in the future.

CONCLUSION

The CCI was shown to be valid and reliable for use in Turkey. The CCI will enable future research and clinical studies in group psychotherapy to assess the curative factors in group settings.

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REFERENCES

1. Burlingame GM, MacKenzie KR., Strauss B. Small group treatment: Evidence for effectiveness and mechanisms of change, in Bergin and Garfield's handbook of psychotherapy and behavior change. Edited by Lambert JM. Hoboken NJ, Wiley, 2004, pp. 646-696.
2. McRoberts C, Burlingame GM, Hoag MJ. Comparative efficacy of individual and group psychotherapy: A meta-analytic perspective *Group Dyn-Theor Res* 1998; 2: 101-117.
3. Yalom ID. *The Theory and Practice of Group Psychotherapy* (2nd ed.). New York, Basic Books, 1975.
4. Yalom ID, Leszcz M. *The Theory and Practice of Group Psychotherapy* (5th ed.) New York, Basic Books, 2005.
5. Ahmed S, Abolmagd S, Rakhawy M, Erfan S, Mamdouh R. Therapeutic factors in group psychotherapy: A study of drug addicts. *J Groups Addict Recover* 2010; 5: 194-213.
6. Butler T, Fuhriman A. Patient perspective on the curative process: A comparison of day treatment and outpatient psychotherapy groups. *Small Group Behav* 1980; 11: 371-388.
7. Butler T, Fuhriman A. Curative factors in group therapy: A review of the recent literature. *Small Group Behav* 1983; 14: 131-142.
8. Fuhriman A, Drescher S, Hanson E, Henrie R, Rybicki W. Refining the measurements of curativeness. *Small Group Behav* 1986; 17: 186-201.
9. Kipnes DR, Piper WE, Joyce AS. Cohesion and outcome in short-term psychodynamic groups for complicated grief. *Int J Group Psychoth* 2002; 52: 483-509.
10. Piper WE, Marrache M, Lacroix R, Richardson M, Jones BD. Cohesion as a basic bond in groups. *Hum Relat* 1983; 36: 93-108.
11. Burlingame GM, McClendon DT, Alonso J. Cohesion in group therapy. *Psychother* 2011; 48: 34-42.
12. Marziali E, Munroe-Blum H, McCleary L. The contribution of group cohesion and group alliance to the outcome of group psychotherapy. *Int J Group Psychoth* 1997; 47: 475-497.
13. Yalom ID. *The Theory and Practice of Group Psychotherapy* (4th ed.). New York, Basic Books, 1995.
14. Tschuschke V, Dies RR. Intensive analysis of therapeutic factors and outcome in long-term inpatient groups. *Int J Group Psychoth* 1994; 44: 185-208.
15. Castonguay LG, Pincus AL, Hines III CE, Agras WS. The role of emotion in group cognitive-behavioral therapy for binge eating disorder: When things have to feel worse before they get better. *Psychother Res* 1998; 8: 225-238.
16. Marmarosh C, Holtz A, Schottenbauer, M. Group cohesiveness, group-derived collective self-esteem. Group-derived hope, and the well-being of group therapy members. *Group Dyn-Theor Res* 2005; 9: 32-44.
17. Restek-Petrovic B, Bogovic A, Oreskovic-Krezler N, Grah M, Mihanovic M, Izevic E. The perceived importance of Yalom's therapeutic factors in psychodynamic group psychotherapy for patients with psychosis. *Gr Analysis* 2014; 47: 456-471.
18. MacKenzie KR, Dies RR, Coché E, Rutan JS, Stone WN. An analysis of AGPA Institute groups. *Int J Group Psychoth* 1987; 37: 55-74.
19. MacNair-Semands RR, Lese KP. Interpersonal problems and the perception of therapeutic factors in group therapy. *Small Group Res* 2000; 31: 158-174.
20. Dinger U, Schauenburg H. Effects of individual cohesion and patient interpersonal style on outcome in psychodynamically oriented inpatient group psychotherapy. *Psychother Res* 2010; 20: 22-29.
21. Oei TPS, Browne A. Components of group processes: Have they contributed to the outcome of mood and anxiety disorder patients in a group cognitive-behaviour therapy program? *Am J Psychother* 2006; 60: 53-70.
22. Taube-Schiff M, Suvak MK, Antony MM, Bieling PJ, McCabe RE. Group cohesion in cognitive-behavioral group therapy for social phobia. *Behav Res Ther* 2007; 45: 687-698.
23. Johnson JE. Cohesion in cognitive-behavioral group therapy for anxiety disorders and major depression. *Int J Group Psychoth* 2010; 60: 153-158.
24. Demirbas H, Dogan YB, Ilhan IO. The relationship between the group therapeutic factors and relapse in alcohol dependent inpatients. *Dusunen Adam J Psychiatry Neurological Sciences* 2012; 25: 119-124.
25. Vlastelica M, Pavlovic S, Urlic I. Patients' ranking of therapeutic factors in group analysis. *Collegium Antropol* 2003; 27: 779-788.
26. Gullo S, Coco GL, Fratello CD, Giannone F, Mannino G, Burlingame G. Group climate, cohesion, and curative climate: A study on the common factors in the group process and their relation with members' attachment dimensions. *Res Psychother Psychopath Process Outcome* 2015; 18: 10-20.
27. Freud S. *The Psychotherapy of Hysteria*, in *The Complete Work of Sigmund Freud* (Vol 2, pp. 255-305). Edited by Strachey J. London: Hogarth Press, 1957 (original work published in 1895).
28. Bemak F, Young ME. Role of catharsis in group psychotherapy. *Int J Action Meth* 1998; 50: 166-184.
29. Burlingame GM, Fuhriman A. Time-limited group therapy. *Counsel Psychol* 1990; 18: 93-118.
30. Wheeler I, O'Malley K, Waldo M, Murphey J, Blank C. Participants' perception of therapeutic factors in groups for incest survivors. *J Spec Group Work* 1992; 17: 89-95.
31. MacDevitt JW, Sanislow CA. Curative factors in offenders' groups. *Small Group Behav* 1987; 18: 72-81.
32. Hetzel RD, Barton DA, Davenport DS. Helping men change: A group counseling model for male clients. *J Spec Group Work* 1994; 19: 52-64.
33. Herrick C, Kvale JK, Goodykoontz LG. Resolving faculty conflict: Application of a psychotherapeutic model in an encounter group process. *J Spec Group Work* 1991; 16: 32-39.
34. Rohde RI, Stockton R. The group as an effective medium for working with children of chemically dependent families. *J*

- Spec Group Work 1993; 18: 182-188.
35. Nichols MP, Bierenbaum H. Success of cathartic therapy as a function of patient variables. *J Clin Psychol* 1978; 34: 726-728.
36. Bohart AC. Toward a cognitive theory of catharsis. *Psychother-Theor Res* 1980; 17: 92-201.
37. Greenberg L, Safran JD. *Emotion in psychotherapy: Affect cognition and the process of change*. New York, Guilford Press, 1988.
38. Lieberman MA, Yalom ID, Miles MB. *Encounter Groups: First Facts*. New York: Basic Books, 1973.
39. Pennebaker JW. *Opening up: The Healing Power of Confiding in Others*. New York, William Morrow, 1990.
40. Johnson JE, Pulsipher D, Ferrin SL, Burlingame GM, Davies DR, Gleave R. Measuring group processes: A comparison of the GCQ and CCI. *Group Dyn-Theor Res* 2006; 10: 136-145.
41. Strauss B, Burlingame GM, Bormann B. Using the CORE-R battery in group psychotherapy. *J Clin Psychol* 2008; 64: 1225-1237.
42. Snell WE Jr, Schicke M, Arbeiter T. The Multidimensional Relationship Questionnaire: Psychological Dispositions Associated with Intimate Relations, in *New Directions in the Psychology of Intimate Relations: Research and Theory*. Edited by Snell Jr WE. Cape Girardeau, MO, Snell Publications, 2002.
43. Hendrick SS. A generic measure of relationship satisfaction. *J Marriage Fam* 1988; 50: 93-98.
44. Buyuksahin A. The Multidimensional Relationship Questionnaire: A study of reliability and validity. *Turk J Psychiatry* 2005; 16: 97-105.
45. Garver MS, Mentzer JT. Logistics research methods: Employing structural equation modeling to test for construct validity. *J Bus Logist* 1999; 20: 33-57.
46. Hoe SL. Issues and procedures in adopting structural equation modeling technique. *J Appl Quant Method* 2008; 3: 76-83.
47. G. Burlingame, personal communication, July 16, 2015.
48. Beaton DE, Bombardier C, Guillemin F, Ferraz MB. Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine* 2000; 25: 3186-3191.
49. George D, Mallery P. *SPSS for Windows Step by Step*. Boston, Pearson, 2006.
50. Kline RB. *Principles and Practice of Structural Equation Modeling*. New York, Guilford Press, 2005.
51. Tabachnick BG, Fidell LS. *Using Multivariate Statistics* (5th ed.). New York: Allyn and Bacon, 2007.
52. Wheaton B, Muthen B, Alwin DF, Summers G. Assessing reliability and stability in panel models. *Sociol Methodol* 1977; 8: 84-136.
53. MacCallum RC, Browne MW, Sugawara HM. Power analysis and determination of sample size for covariance structure modeling. *Psychol Methods* 1996; 1: 130-149.
54. Sivo SA, Fan XT, Witta EL, Willse JT. The search for 'optimal' cutoff properties: Fit index criteria in structural equation modeling. *J Exp Educ* 2006; 74: 267--289.