



# Psychometric properties of the Persian version of Cognitive Fusion Questionnaire - Body Image (CFQ-BI)

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**Abstract**

**Aim:** The purpose of this study was to investigate the psychometric properties of the Body Image Cognitive Fusion Questionnaire in women applying for cosmetic surgeries with **Method:** It was a correlational descriptive research and the statistical population included all women aged 20 to 50 who referred to beauty clinics in Tehran for cosmetic surgeries. 319 people were selected using the convenience sampling method. Cognitive Fusion Questionnaire - Body Image (CFQ-BI), Yale-Brown Obsessive Compulsive Scale for Body Dysmorphic Disorder (BDD-YBOCS) and Self-Compassion Scale-Short Form (SCS-SF) were used to collect information. confirmatory factor analysis for evaluate the construct validity, Correlation matrix for checking convergent validity and divergent validity and Internal consistency was used to check reliability with the help of Cronbach's alpha coefficient. **Results:** The findings of confirmatory factor analysis showed that the single-factor model of Cognitive Fusion Questionnaire-Body Image, according to the numerical size of the indicators, RMSEA=0.079, SRMR=0.025, CFI=0.981, TLI=0.968, and IFI=0.981 has a good fit. Considering the positive and significant correlation of this scale with the scale of Body Dysmorphic Disorder ( $r=0.629$ ), the convergent validity of this tool was evaluated favorably. The divergent validity of this scale with the short form of Self-Compassion Questionnaire was reported favorable due to the negative and significant correlation between these two instruments ( $r=0.599$ ). Cronbach's alpha coefficient of 0.95 indicated the good reliability of this questionnaire. **Conclusion:** According to the research findings, it can be concluded that Questionnaire of Cognitive Fusion-Body Image in Iranian population (Female applicants for Cosmetic surgeries) has desired psychometric properties and it can be used as a valid tool in future research and diagnostic situations.

**Keywords:** Cognitive Fusion Questionnaire - Body Image (CFQ-BI), psychometric properties, reliability, validity.

## Introduction

The term "cognitive fusion" refers to the extent to which individuals become merged with the content of their cognitions (such as thoughts, beliefs, memories, or images) (Karinen, Sand, & Lerkkanen, 2019); a state in which the individual lacks the ability to experience their cognitions as transient interpretations of reality, considers their internal experience as an absolute and external truth, and becomes detached from reality (Fernandez-Rodriguez, Lutza-Lesesma, Martinez-Lordo, & Cuesta-Izquierdo, 2022). The mentioned process may occur in relation to any domain, including fusion with cognitions related to body image (Paixao, Oliveira, & Ferreira, 2021). In cognitive fusion of body image, the individual's engagement is primarily with the content of cognitions surrounding the physical appearance of the body and how it appears (Almeida, Lit, Constant, Correia, Tavares, Vidal, et al., 2020). They constantly think about their physical appearance and the mental images associated with it, become engrossed in them, lack the ability to move beyond, and believe that the reality of their appearance is as they perceive it (Ozcebe, Grovyle, & Hooper, 2023; Weissen, Lainez, Reichenberger, Blechert, Mansch, & Stinz-Laber, 2020).

This tool has shown a desirable level of positive correlation with binge-eating severity scale, general cognitive fusion, and psychological inflexibility. Furthermore, the scores of cognitive fusion related to body image have provided incremental validity over a general measure of cognitive fusion in predicting binge-eating symptoms; overall, this study demonstrated that this tool is a brief scale with reliable and strong scores in Brazilian samples, offering incremental and convergent validity, measurement invariance, and sensitivity for detecting differences between clinical and non-clinical groups of women, and enabling comparative studies between them.

Given the necessity of having tools available for measuring the transdiagnostic factor of cognitive fusion of body image, and the lack of study of this tool in Iran, the purpose of the current research is to investigate the psychometric properties of the Body Image Cognitive Fusion Questionnaire on a domestic sample.

## Method

It was a correlational descriptive research and the statistical population included all women aged 20 to 50 who referred to beauty clinics in Tehran for cosmetic surgeries. 319 people were selected using the convenience sampling method. Cognitive Fusion Questionnaire - Body Image (CFQ-BI), Yale-Brown Obsessive Compulsive Scale for Body Dysmorphic Disorder (BDD-YBOCS) and Self-Compassion Scale-Short Form (SCS-SF) were used to collect information. confirmatory factor analysis for evaluate the construct validity, Correlation matrix for checking convergent validity and divergent validity and Internal consistency was used to check reliability with the help of Cronbach's alpha coefficient.

## Results

The findings of confirmatory factor analysis showed that the single-factor model of Cognitive Fusion Questionnaire-Body Image, according to the numerical size of the indicators, RMSEA=0.079, SRMR=0.025, CFI=0.981, TLI=0.968, and IFI=0.981 has a good fit. Considering the positive and significant correlation of this scale with the scale of Body Dysmorphic Disorder ( $r=0.629$ ), the convergent validity of this tool was evaluated favorably. The divergent validity of this scale with the short form of Self-Compassion Questionnaire was reported favorable due to the negative and

significant correlation between these two instruments ( $r=0.599$ ). Cronbach's alpha coefficient of 0.95 indicated the good reliability of this questionnaire.

### **Conclusion**

The findings indicate satisfactory construct validity in this questionnaire. This means that the existing tool, considering the items and components it is expected to measure, accurately assesses the concept of cognitive fusion of body image. The items are in good alignment with the theoretical basis from which the concept of cognitive fusion of body image is derived.

Among the limitations of the current study, it should be noted that the existing tool was tested on Tehranian women seeking cosmetic surgery, and caution must be exercised in generalizing the results to other genders and cities. Additionally, considering the non-clinical nature of the study sample, this limitation should be taken into account when generalizing the results to clinical populations. Another limitation of this research is that the reliability of the existing tool could not be assessed using the test-retest method, and only internal consistency was reported.

Given these limitations, it is recommended that future research should sample both genders, in different cultures and cities, and include clinical populations. Furthermore, the test-retest method could be employed for further reliability assessment.

Overall, the Body Image Cognitive Fusion Questionnaire, when applied to an Iranian sample of women seeking beauty services, possesses desirable psychometric properties and can be used in future research and clinical frameworks.

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