



# Comparison of Early Maladaptive Schemas and Metacognitive Beliefs between the Students with Social Phobia and the ones with no Psychiatric Problems

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## Abstract

**Background:** Researchers believe that the early maladaptive schemas act as refiners to approve the childhood's experiences and will lead to some clinical symptoms like anxiety, depression, phobia, personality disorders, alcohol abuse, overeating or stomach ulcers.

**Objectives:** The present study was carried out with the purpose of comparing early maladaptive schemas and metacognitive beliefs between the students with social phobia and the ones with no psychiatric problems in the universities of Tehran.

**Methods:** The statistical population included all the patients referred to the therapeutic, psychiatric, psychological and consultative centers of Tehran in 2015. The causal-comparative methodology was employed and 60 students with social phobia and 60 students with no psychiatric problems were selected as the samples of the study using the convenience (targeted) sampling method. Young schema questionnaire, Conover metacognitive beliefs and social phobia were employed for data collection. The research data were analyzed using multivariable analysis of variance (MANOVA) test.

**Results:** The obtained results showed that there was a significant difference between the students with social phobia and the ones with no psychiatric problems in terms of early maladaptive schemas and metacognitive beliefs ( $P < 0.01$ ).

**Conclusions:** It can be stated that the early maladaptive schemas have been less inefficient among the students with social phobia.

**Keywords:** Early, Maladaptive Schemas, Metacognition, Social Phobia, Students

## 1. Background

The recent investigations have shown that the anxiety disrupts the maximum frequency among the population in general. Anxiety is usually associated with physical-mental changes and undermines much of the individuals' general health (1). Social phobia is one of the most prevalent disorders among kids and teenagers. The rate of this disorder has been reported as 3% - 13% among the adults population. In real or hypothetical interactions, social anxiety encompasses the individuals' feelings of negative evaluation, emotional turbulence and evitable behavior (2). Cognitive-behavioral model of social anxiety disorder which has been represented by Rapee and Heimberg deems the biased cognitive processes important in continuation of this disorder. This model hypothesizes that prediction of situation or the situation itself will activate some presumptions in the mind of individuals with social anxiety disorder (3).

The researchers believe that the early maladaptive schemas act as refiners to approve the childhood's experiences and will lead to some clinical symptoms like anxiety, depression, phobia, personality disorders, alcohol abuse, overeating or stomach ulcers (4, 5). According to one study (6), in some cases because of negative childhood experiences, early maladaptive schemas will occur affecting the way of thinking, feeling and behavior in the intimate relationships and other aspects of their lives (6). Some researchers in their investigation on the role of metacognition in suggestion of anxiety and depression levels in cancer patients under chemotherapy found out that negative beliefs need to be controlled and positive beliefs and thoughts will explain 89% of the anxiety variance in cancer patients during the period of chemotherapy. Negative beliefs about worriedness and gender explain up to 81% of the variance in depression in cancer patients dur-

ing chemotherapy. According to a study conducted on the patients with social phobia associated with schizophrenia, longer lifetime, suicide attempts and alcohol abuse were recognized as the most distinguished characteristics of them (7).

The results of Bahrami, Abolghasemi, and Narimani (2013) indicated that students with the symptoms of social anxiety disorder have perceived to suffer from disturbed and distorted self-understanding (8). The other results of investigators (9) revealed that, comparing with the members of the control group, patients with social anxiety disorder underestimate their social functions in their social interactions such as speeches, talks, etc. The students' experiences of social anxiety will have negative effects on their academic performance during the education period and also on their job performance in the future. In this regard, researchers and clinicians in recent years have devoted increasing efforts to understand the etiology, prevalence and broad effects of social anxiety disorder. Considering the physical and psychological health of the students is so vital for the future of any country, the need for research on the variables of early maladaptive schema and metacognitive beliefs as predictor variables and social phobia as the criterion variable is now inevitable more than ever; This may raise some questions e.g.: whether or not there is any difference between early maladaptive schemas and metacognitive beliefs in the students with social phobia and those with no psychiatric problems.

## 2. Objectives

The present study was carried out with purpose of comparing early maladaptive schemas and metacognitive beliefs between the students with social phobia and the ones with no psychiatric problems in the universities of Tehran.

## 3. Methods

The statistical population included all the patients referred to the therapeutic, psychiatric, psychological and consultative centers of Tehran in 2015; their social phobia disorder had been checked by the related Psychiatrists or clinical Psychologists. 60 students with social phobia and 60 students with no psychiatric problems were selected through convenience sampling as the samples of the study. The convenience sampling method used in this study, as it permits us to collect basic data without any complication of using other types of random sampling method.

Young schema questionnaire, Conover metacognitive beliefs and social phobia were employed for data collection. Once collected, the data were analyzed in both descriptive (mean and standard deviation) and inferential

statistics (multivariable analysis variance using SPSS version 22).

### 3.1. Materials

#### 3.1.1. Young Schema Questionnaire (Short Form)

This scale includes 75 questions with Likert 6-point scale (1 = totally false, 6 = totally true) and 15 subscales of emotional deprivation, rejection/abandonment, mistrust/abuse, social isolation, defectiveness/shame, defeat, dependence/incompetence, vulnerability to loss, not self-development/entanglement, obedience, devotion, emotional inhibition, unrelenting standards, entitlements, continence and insufficient self-discipline (6). Smith, Jones and Young (1995) as quoted by Lotfi, Donyavi and Khosravi (2007) carried out the first study on psychometric features of this schema (10); they calculated Cronbach's alpha coefficients as 0.50 to 0.82 for subscales of the related questionnaire in non-clinical population. This questionnaire has been translated by Ahi (2006) in Iran as quoted by Veysipour (2015); the internal consistency based on Cronbach's alpha has been reported as 0.97 for female group and 0.98 for male group. The concurrent validity of this questionnaire with dysfunctional attitude scale reported 0.65 (11).

#### 3.1.2. Social Phobia Inventory Conover

This self-report questionnaire has been used by Conover to measure social phobia and its physiological symptoms, fear, resignation and avoidance of social situations. The questionnaire includes 17 articles and 3 subscales. Each question of which is scored from 0 to 4 (0 = this characteristic is not true about me; 1 = this characteristic is a little bit true about me; 2 = this characteristic is to some extent true about me; 3 = this characteristic is greatly true about me; 4 = this characteristic is so greatly true about me). The total score of the test ranges from zero to 68, and the internal correlation coefficient has been reported as 0.87 to 0.94 in patients with social phobia and 0.82 to 0.94 in the control group. The average correlation coefficient of the two tests was 0.89 in the social phobia group (12). The internal consistency reported for fear, resignation and avoidance of social situations 0.74, 0.75 and 0.75 in Iranian study. The test-retest reliability of this scale reported from 0.78 to 0.89 (12).

#### 3.1.3. The Questionnaire of Metacognitive Beliefs

This questionnaire was designed by Wells and Cartwright Hatton (1997) with 30 questions and five scales and evaluates cognitive beliefs and processes by which one assesses, monitors and controls his thoughts. This questionnaire itself is a report based on Likert scale

which should be scored from 1 (not agree) to 4 (totally agree). Wells and Cartwright Hatton reported Cronbach's alpha Coefficient of the questionnaire dimensions as 0.72 to 0.93 and its retest reliability as 0.75 in the time interval of 22 to 118 days (13). In Iran, Shirinzadeh and Dastgiri (2006), based on Cronbach's alpha Coefficient, have reported its internal consistency coefficient as 0.91 for the whole questionnaire and 0.71 to 0.87 for its dimensions, its retest reliability 0.73 for the whole questionnaire within 4 weeks and 0.59 to 0.83 for its dimensions. The content validity of the questionnaire was confirmed by the psychologists and psychiatrists in this study (14).

#### 4. Results

The data were analyzed through descriptive and inferential statistics separately. In the first part, mean and standard deviation of the two groups (those with social phobia and those with no psychiatric problems) were addressed and in the second part, in order to investigate the research hypothesis, parametric test of multivariable variance analysis was employed.

The descriptive analysis for the two groups is explained in Tables 1 and 2.

In order to test the hypothesis of this study, multivariable variance analysis was used in the inferential statistical analysis. The hypothesis suggests that there is a significant difference between early maladaptive schemas and cognitive beliefs in students with social phobia and those without psychiatric problems.

Before performing variance analysis to evaluate the research hypothesis, first the normality of variable distribution and homogeneity of variances were investigated; Levine test results were employed in the investigation of variances homogeneity of the two groups in the case of the dependent variable in various stages of testing. Levine test results showed that the two groups were homogenous in terms of variances based on which the reliability of our next results could be affirmed.

Multivariable variance analysis was employed in comparison of early maladaptive schemas and metacognitive beliefs between the students with social phobia and the ones with no psychiatric problems. The results have been given in the Table 3.

The results given in Table 3 showed that there was a significant difference in early maladaptive schemas ( $P = 0.01$ ,  $Df = 120$ ,  $F = 42.278$ ) between the students with social Phobia and those with no psychiatric problems; Eta coefficient (effectiveness and statistical power) is 0.264 for early maladaptive schemas.

In addition, the results given in Table 4 showed that there was a significant difference in metacognitive beliefs

**Table 1.** Descriptive Indices of Early Maladaptive Schemas in Both Groups i.e. Those with Social Phobia and those with No Psychiatric Problems ( $N_1 = N_2 = 60$ )

Variable	Group	Mean	Standard Deviation
Emotional deprivation	With phobia	18.58	5.63
	With no Psychiatric problem	15.75	4.27
Abandonment	With phobia	18.25	4.40
	With no Psychiatric problem	13.08	4.72
Mistrust / abuse	With phobia	18.37	4.28
	With no Psychiatric problem	13.03	4.29
Social isolation	With phobia	17.52	4.39
	With no Psychiatric problem	12.37	4.49
Defectiveness / shame	With phobia	17.52	4.39
	With no Psychiatric problem	12.42	5.49
Failure to progress	With phobia	17.52	4.39
	With no Psychiatric problem	12.52	5.42
Dependence/ incompetence	With phobia	16.82	4.53
	With no Psychiatric problem	12.55	6.24
Vulnerability to loss	With phobia	16.67	4.31
	With no Psychiatric problem	12.58	5.74
Not self-development / entanglement	With phobia	16.57	4.37
	With no Psychiatric problem	12.92	6.10
Obedience	With phobia	16.53	4.41
	With no Psychiatric problem	12.40	5.74
Self-devotion	With phobia	16.57	4.38
	With no Psychiatric problem	12.83	5.84
Emotional inhibition	With phobia	16.65	4.32
	With no Psychiatric problem	12.73	5.62
Unrelenting standards	With phobia	16.58	4.36
	With no Psychiatric problem	12.82	5.73
Deservingness	With phobia	22.20	5.10
	With no Psychiatric problem	18.30	5.45
Insufficient continence	With phobia	22.27	4.96
	With no Psychiatric problem	18.17	5.41
Total score	With phobia	268.50	49.080
	With no Psychiatric problem	204.48	58.370

( $P = 0.01$ ,  $Df = 120$ ,  $F = 220.412$ ) between the students with social Phobia and those with no psychiatric problems; Eta coefficient (effectiveness and statistical power) is 0.651 for metacognitive beliefs.

#### 5. Discussion

The results of the study showed that there was a significant difference ( $P < 0.01$ ) in early maladaptive schemas between the students with social phobia and those with no psychiatric problems. Based on the obtained results, early maladaptive schemas are less efficient in the students with social phobia. By identifying these schemas prior to social phobia and measuring the severity of these schemas, appropriate intervening strategies can be applied to reduce

**Table 2.** Descriptive Indices of Metacognitive Beliefs in Both Groups (the Students with Social Phobia and Those with No Psychiatric Problems, N<sub>1</sub> = N<sub>2</sub> = 60)

Variable	Group	Mean (SD)
Positive beliefs about worriedness	With no Psychiatric problem	12.75 (1.54)
	With phobia	15.08 (2.26)
Negative beliefs about uncontrollability and danger	With no Psychiatric problem	12.63 (1.46)
	With phobia	15.73 (2.23)
Cognitive confidence	With no Psychiatric problem	12.25 (1.33)
	With phobia	16.50 (2.46)
Beliefs about the need to control thoughts	With no Psychiatric problem	15.10 (1.72)
	With phobia	17.50 (2.07)
Cognitive self-awareness	With no Psychiatric problem	15.22 (1.76)
	With phobia	17.33 (1.81)
Total score	With no Psychiatric problem	67.95 (4.02)
	With phobia	82.15 (6.21)

the schemas and increase the metacognitive beliefs. These results are consistent with Yousefnezhad and Peyvastega (2011), Harris and Curtin (2002), Sempertegui et al. (2015), Nordahl, Holth, and Haugum (2012) and Rijkeboer and Boo's results (2010) (15-19). In these studies, the maladaptive schemas have been investigated in different groups of patients and the differences have then been determined in comparing with normal people. Pinto-Gouveia et al. (2006) in their research on "comparing early maladaptive schemas between the students with social phobia and normal students", showed that in 5 areas of early maladaptive schemas, significant differences were resulted between normal students and the students with social phobia (16); so that the early maladaptive schemas among students with social phobia were more problematic. Asadi (2014), who aimed to examine the relationship between early maladaptive schemas and social phobia (20), showed that there was a significant relationship between social phobia and all components of early maladaptive schemas. In addition, early maladaptive schemas like social alienation, failure, abandonment and emotional inhibition can predict social phobia. Mokhber Dezfuli et al. (2015) showed that although components of gender and anger failed to significantly predict social phobia, perception of others' negative assessment, negative self-assessment and behavioral inhibition, as intervening variables, they have direct effect on social phobia, while the components of early maladaptive schemas and self-focusing attention have indirect effect on social phobia (21). Based on these studies, early maladaptive schema as a deeper cognitive variable affects social phobia through behavioral-cognitive variables

(perception of others' negative assessment, negative self-assessment and behavioral inhibition). The main feature of social phobia is a distinguished and stable fear of social situations in which one might be confused and embarrassed because people with social phobia believe that their behaviors would socially have catastrophic consequences (22). In the past few decades, many theoretical models were represented to explain the mechanism underlying this distinguished fear of social situations in particular and social phobia in general, some of which emphasized the cognitive processes. One of the basic assumptions of cognitive approaches in the field of anxiety is that the anxiety is produced through the prediction of a negative event or perception of a threat. Therefore, people with anxiety disorders (including people with social phobia) would estimate the higher probability of occurring negative events comparing with normal people (23). In this regard, the results of one study showed that the adolescents with severe social phobia would estimate the higher probability of occurring negative events comparing with the adolescents with mild social phobia (24). In fact, these people are always worry about being assessed negatively and hence behave in such a way to be safe from negative assessments (25). For this reason, Weeks, Jakatdar and Heimberg (2010) considered the fear from negative assessment as the main cause of this disorder (26). Overall, the researchers assume the negative assessment as an etiological mechanism in social phobia according to which members of the community assess their phobia as negative or have a distorted perception based on which they think that others would assess them negatively. In addition to the negative assessment, other cognitive-emotional components, like early maladaptive schemas, can be noted in the etiology of social phobia (27). The study carried out by Calvete et al. (2013) showed that deep cognitive components such as early maladaptive schemas would lead to the development of social phobia through activation of cognitive components like negative self-assessment as well as negative thoughts components such as self-assessment; therefore they result in negative thoughts and negative leads to the development of social phobia (27). This study also examined these two components simultaneously and came to conclusion that early maladaptive schemas may affect social phobia through the mediation of negative thoughts. However, there are some studies that investigate only the relationship between social phobia and early maladaptive schemas and have discovered a positive correlation between them. In addition, a group of researchers revealed that there is a significant relationship between biased attention and negative thought in one hand and early maladaptive schemas in the other hand. In the present study, the students with social phobia got a lower score comparing the student with no psy-

**Table 3.** Results of Multivariable Analysis Tests on the Scores of the Early Maladaptive Schemas in the Students

Source	SS	Df	MS	F	P Value	Eta Coefficient
group	122944.008	1	122944.008	42.278	0.001	0.264
Error	343139.983	118	2907.966			
Total	7177481.000	120	-			

**Table 4.** Results of Multivariable Analysis Tests on the Scores of Metacognitive Beliefs in the Students

Source	SS	Df	MS	F	P Value	Eta Coefficient
Group	6049.200	1	6049.200	220.412	0.001	0.651
Error	3238.500	118	27.445			
Total	685188.000	120	-			

chiatric problems (28). On the other hand, there is a significant difference in metacognitive beliefs between the students with social phobia and those without no psychiatric problems ( $P < 0.01$ ). Based on the obtained results, metacognitive beliefs are less efficient in the students with social phobia. By identifying these beliefs prior to social phobia and measuring their severity, appropriate intervening strategies can be applied to reduce them. This finding is in consistent with Hasanvand, Rowshan and Hasanvand (2013); Ellis and Hudson (2010); Spada, Georgiou and Wells (2010) (29-31). They have mentioned that metacognitive aspects such as positive beliefs about worriedness and low cognitive trust can be the causative agents of social phobia.

### 5.1. Limitation and Suggestion of the Study

Being the community of the study limited to a town and the participants' bias in responding to the questionnaires were among the limitations of the study. It is recommended that in psychotherapy and counseling centers, in order to eliminate the students' distorted metacognitive beliefs with social phobia, the students are trained individually or in groups in metacognitive therapy in order to disrupt these steps leading to resolve beliefs effectively and to take effective steps in eliminating their distorted beliefs.

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