Int. J. School. Health. 2024; 11(1)

Published online 2024 January.

Original Article

Social Anxiety in Iranian Adolescent Students based on Clark and Wells Cognitive Model (1995)

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Received: September 12, 2023; **Revised:** October 03, 2023; **Accepted:** December 05, 2023

Abstract

Background: Existence of social anxiety in adolescents have been examined in various cognitive behavioral models such as Clark and Wells Cognitive Model that has been tried to justify the maintenance of this anxiety in them. The present study aimed to investigate the correlation between the variables of Clark and Wells (1995) Cognitive Model and Social Anxiety in Iranian Adolescent students.

Methods: This was a cross-sectional descriptive study; a student sample (N=220) was selected from Parsian and Asaluyeh schools in 2021-2022. An online form was used to collect data on Social Anxiety Scale for Adolescents (SAS-A), Social Phobia Weekly Summary Scale (SPWSS), Focus of Attention Questionnaire – Self-focus subscale (FAQ-S), Report of Youth Social Cognitions (RYSC), Subtle Avoidance Frequency Examination (SAFE), Post-event Processing Questionnaire-5 item version (PEPQ-5), and Birleson Depression Self-Rating Scale (DSRS). Pearson correlation and regression analysis were used for data analysis.

Results: A positive correlation was found between social anxiety and anticipatory processing (P<0.001, r=0.33), maladaptive social-evaluative beliefs (P<0.001, r=0.58), safety behaviors (P<0.001, r=0.63), and post-event processing (P<0.001, r=0.28). The high socially anxious group had significantly greater scores on the social anxiety measure and all the maintaining factors (P<0.001) except the self-focus measure (P=0.235).

Conclusion: The study results suggested that there is a positive correlation between the variables of Clark and Wells (1995) Cognitive Model and Social Anxiety in Iranian adolescent students.

***Keywords*:** Social phobia, Adolescence, Cognitive-behavioral intervention

How to Cite: Ghasemi A, Soltani E, Hejazi N. Social Anxiety in Iranian Adolescent Students based on Clark and Wells Cognitive Model (1995). Int. J. School. Health. 2024;11(1):67-76. doi: 10.30476/INTJSH.2024.100203.1350.

1. Introduction

About two percent of Iranian children and teenagers suffer from social anxiety disorder (1). Social anxiety disorder (SAD) or social phobia is a fear with signs of social situations in which the individual may be checked by other humans (2). Cognitive behavioral models of SAD emphasize the role of various cognitive and behavioral factors in the maintenance of SAD (3-6). For example, Clark and Wells Cognitive Model (1995) assumes that attempts should be made to explain the preservation of the disorder and describe why individuals with SAD do not benefit from the average confrontation provided by their everyday interactions with others. Based on this model, social anxiety is seen as an extract from maladaptive beliefs about the self and social world, which causes individuals with social anxiety disorder to interpret social situations in an extremely negative manner (7). Thus, negative distortions are maintained by four processes: a) they may widely use safety behaviors that contain overt avoidance intended to prevent fear of disaster; this is the result of the maintenance of negative beliefs and greater fear symptoms, leading to treating others in ways that are likely to exhibit less friendly behaviors, b) heightened self-focused attention, which is related to a decrease in the observation of other people and their behaviors, c) the individual may also use misleading internal information including emotions and self-images to make more than enough negative inferences about how they appear in front of others, and finally, they may engage in pre- and post-event negative bias. Safety behaviors are formulated as anything the individuals do or avoid to prevent their realized social fears (7). For example, individuals who fear other people attending how anxious they are in social situations may use obvious avoidance, for instance avoiding social situations or not speaking in the situation (3). Alternatively, they may use more subtle forms of avoidance such as avoiding

eye contact or planning and rehearsing what to say, to prevent their fear of appearing anxious from being realized (7).

More recently, studies have investigated the application of this model in children and teenagers. To develop this conceptualization, Ranta and colleagues showed that adolescents with greater social anxiety reported overall negative thoughts, negative observer-view images, and safety behaviors more commonly than normal teenagers (8). In a subsequent study, Blöte and co-workers indicated that teenagers with higher social anxiety reported greater negative performance expectations, greater self-focused attention, and more negative understanding of the audience (9). Moreover, Chiu and colleagues indicated that social anxiety, safety behaviors, negative social cognitions, self-focused attention, and post-event processing anticipated prospective levels of symptoms (10). Most relevant to the present study, Hodson and co-workers (7) suggested that Clark and Wells Cognitive Model (1995) may be applied to young people's conditions including social anxiety and depression. Based on this study, self-focused attention, negative social cognitions, pre- and post-event processing, and safety behaviors totally anticipated social anxiety in the youth. The findings of this study were consistent with those of previous studies, proposing a cognitive component to social anxiety disorder in young people (7). These studies have highlighted the important connection of social anxiety with anticipatory processing (11, 12), self-focus (13, 14), dysfunctional cognitions (15, 16), avoidance and safety behaviors (14, 17), and post-event processing (12, 18) in children and teenagers.

Recently, some researchers have proposed that Clark and Wells Model (1995) can be applied to children and adolescents with SAD (7, 8). The most popular psychotherapy for adolescents with social anxiety disorder is general forms of cognitive behavior therapy (CBT) developed for other anxiety disorders. Little research has been done on the causes and treatment of social anxiety in teenagers. Previous study on social anxiety in children have focused on identifying social skills problems and using social skills for training programs (19). However, it may be that any observed skills problem can be conceptualized within a cognitive-behavioral framework. In another study, Leigh and Clark (20) examined the application of the adult cognitive model of Clark and Wells to the development of adolescent social anxiety, and that a proposed developmentally sensitive acceptance of this model of social anxiety disorder for adolescents might lead to better treatment outcomes. Hence, the working models of social anxiety disorder applies to Iranian teenagers so that effective treatments can be developed for this population. Thus, the present study was based on investigating whether the variables in this model are more evident in adolescents with high social anxiety compared with those with low social anxiety and whether they anticipate social anxiety over and above depression. Thus, the following hypotheses were tested:

Adolescents with high social anxiety have greater scores in variables of this model (including self-focused attention, negative social cognitions, safety behaviors, and anticipatory processing - and post-event processing) as compared with low social anxiety. Moreover, these variables would significantly anticipate more variances in socially anxious teenagers than in those with depression. Finally, since children and adolescents are at risk of obesity during the COVID-19 pandemic (21), we anticipate that more obese teenagers have significantly greater scores in the variables of this model.

2. Methods

This was a cross-sectional descriptive study; 222 students were recruited using the convenience sampling method in Parsian, Koushkonar, Chahmobarak, and Asaluyeh schools in 2020-2021. We sent the link in an online form to teachers and asked them to send it to students based on the inclusion criteria. Firstly, the aim of the study was explained to the individuals. Students who were willing to participate were included in this study. The inclusion criteria were 12-18 years of age and at least five years of school education. Two students did not make a reasonable attempt to complete the questionnaires (i.e., less than 80% of items were completed). We found that the dataset had only 5 obese participants (i.e., BMI>=30), which makes it impossible to compare the social anxiety model in obese versus non-obese students.

2.1. Measures

2.1.1. Social Anxiety Scale for Teenagers (SAS-A)

SAS-A is based on SASC-R (22) which was

developed for children. SASC-R contains 18 items that assess three features of social anxiety: Social Avoidance and Distress in General, Fear of Negative Evaluation, and Social Avoidance Specific to New Situations. The range of scores in SAA-A are 16-80. The SAS-A had desirable reliability and three-factor solution in the English version (23). The three-factor solution including FNE, SAD-general, and SAD-new explained 47% of the variance of SAS-A and had a positive correlation with Children's Depression Inventory (r=0.35) and Revised Children's Manifest Anxiety Scale (r=0.59) SAS-A had desirable reliability (average Cronbach's alpha=0.79, test-retest reliability=0.88). The obtained results provided support for the use of this measure among the Iranian teenage population (24). In this study, the validity of SAS-A was confirmed by eight experts (CVI=97, CVR=97).

2.1.2. Social Phobia Weekly Summary Scale (SPWSS)

The original 5-item SPWSS assesses social avoidance, social anxiety ratings, anticipatory and post-event rumination, and self-focused and external attention. The range of scores in SPWSS is 0-8; SPWSS had desirable reliability, e.g., Cronbach's alpha=0.81 (25). The present study used only 3, 4, and 5 items for assessing pre- and post-event rumination and self-focused and external attention; we used forward translation, backward translation and review of the original text and the translated version, and resolved discrepancies by three experts. In this study, the validity of SPWSS was approved by eight experts (CVI=100, CVR=95).

2.1.3. Focus of Attention Questionnaire – Self-focused subscale (FAQ-S)

The original 5-item FAQ-S assesses an individual's monitoring of oneself (e.g., internal bodily responses or behavior) during a social and evaluative situation and has been used to be administered immediately after a specific situation. The score range for SAA-A falls between 5 and 25. FAQ had desirable reliability and validity (e.g., average Cronbach's alpha=0.76 and two-factor solution) in English (26). The two-factor solution included Self-focus and external focus explained 47% of the variance of the Persian version of FAQ-S and had a positive correlation with the social Anxiety Scale (r=0.61). FAQ-S had a desirable reliability (Cronbach's alpha for self-focus=0.75) in the Persian version (27). In this study, the validity of FAQ was approved by eight experts (CVI=97, CVR=95).

2.1.4. The Report of Youth Social Cognitions (RYSC)

The 14-item RYSC assesses maladaptive social and evaluative beliefs in youth based on a cognitive model (1995). For RYSC, respondents are asked to read and select how often they have thought about each item within the last week (e.g., "People believe I'm not as good as other children"). RYSC questions are scored on a 5-point Likert scale (1 to 5; 1 used as not at all and 5 used as all the time). Higher scores indicate greater maladaptive social-evaluative beliefs. The RYSC scores span from 14 to 70. The RYSC had desirable reliability (e.g., test-retest reliability=0.87, Cronbach's alpha=0.88) and validity (positive associations with social anxiety scale) in English-speaking samples (28). Forward translation, backward translation and a review of original and translated versions, and resolving discrepancies by three experts were done in the present study. In this study, the validity of RYSC was approved by eight experts (CVI=97, CVR=97).

2.1.5. The Subtle Avoidance Frequency Examination (SAFE)

The 32-item SAFE is based on the conceptual definition of cognitive theories about safety behaviors and assesses these behaviors in fearful social situations. SAFE items are scored on a 5-point Likert scale ranging from 1 (Never) to 5 (Always), with higher scores indicating greater safety behaviors. For SAFE, respondents are asked to rate a social situation when and how often they felt anxious (e.g., "Speak softly"). The SAFE scores range from 28 to 140 and has a desirable reliability and validity in the English version (29). SAFE has desirable reliability (e.g., Cronbach's alpha=0.83) and validity (positive correlation (r=0.54) with feeling worthless in interpersonal relationships) in the Persian version (30). In this study, the validity of SAFE was approved by eight experts (CVI=96, CVR=94).

2.1.6. Post-event Processing Questionnaire (PEPQ-5)

The main 13-item PEPQ assesses the human tendency to engage in social situations after the event (31). PEPQ items (for example, "Did you try to resist thinking about the situations?") are scored on a Likert scale from 0 (Not at all) to 100 (Totally agree). Higher scores in this scale indicate

greater levels of post-event processing. Scores in PEPQ range from 0 to100; PEPQ has desirable reliability and validity in the original version (31-33). PEPQ has desirable reliability (e.g., Cronbach's alpha=0.85) and validity (positive correlation (r=0.42) with social anxiety scales) in the Persian version (34). We have removed items 5, 9, and 10 given poor factor loadings, based on previous studies (31, 34). In this study, the validity of PEPQ was approved by eight experts (CVI=94, CVR=97).

2.1.7. Birleson Depressive Self-Rating Scale (BDSRS)

The 18-item BDSRS is based on the operational definition of depression and assesses moderate and severe depressive symptoms in children and teenagers. BDSRS items are scored on a Likert scale from 0 (Never) to 2 (Always). Higher scores of BDSRS indicate greater levels of depression. The range of scores in BDSRS is 0-36, with desirable reliability and validity in the original version (35). BDSRS had desirable reliability (e.g., test-retest reliability=0.77, Cronbach's alpha=0.75) and validity (three-factor solution, positive correlation (r=0.73) with Beck's depression inventory) in the Persian version (36); we used 14 items of BDSRS. In this study, the validity of BDSRS was approved by eight experts (CVI=97, CVR=97).

2.2. Statistical Analyses

To determine the association between social anxiety and the variables of the model, we examined the correlations. For data analysis, SPSS version 23 was used (P<0.05). We calculated mean and standard deviations for all the maintenance factors and compared them for a high socially anxious group (top 25% of SAS-A scores) and a low socially anxious group (bottom 25% of SAS-A). To determine the extent to which the maintaining factors were independently associated with social anxiety, we performed a regression analysis, with the maintaining factors presented simultaneously as predictors and social anxiety level presented as the dependent variable. To examine whether depression levels affected the results from the regression analysis, we repeated the analysis considering depression levels as a covariate. To determine the specificity of the maintaining factors for social anxiety, we also conducted a regression analysis, with the maintaining factors presented simultaneously as anticipator and depression level presented as the dependent variable. To examine whether social anxiety level affected the findings of this regression analysis, we repeated the analysis, with social anxiety as a covariate.

3. Results

Original measures with at least 80% completion were regarded as genuine attempts and pro-rated to obtain the measure summary scores (i.e., the sum of total score or average item score, depending on the measure). Main measures with less than 80% completion were treated as missing data. Among 220 participants, there were 1857 data points for the main measure summary scores out of a possible 1980 (93.79% completion rate). Imputation technique is replacing the missing data with some substitute value to keep most of the data. MCAR and MAR are two modern missing data methods for managing missing data. We used the R package for managing missing data. It was anticipated that data were missing independent of both observed and unobserved data; in case the probability of being missing was the same for all cases, then the data were considered to be missing completely at random. Little's test of Missing data Completely at Random (MCAR) indicated that the mean difference in subgroups was significant, $\chi^2(170)=220.53$, P=0.005, indicating that the missing data were not MCAR. However, students with missing data significantly differed from those without missing data in some variables (e.g., RYSC, SAS-A, SAFE, BDSRS total scores; all P values were <0.001 that showed missing data were plausibly missing at random (MAR). As such, R package, 'Multivariate Imputation by Chained Equations (MICE) was used to generate ten imputed datasets using the predictive mean matching method, and the subsequent results were the pooled results based on these datasets and Rubin's rules. Pooled measure summary scores and correlations are shown in Table 1. In all imputed datasets, skew and kurtosis values ranged from -1.06 to 0.82, indicating that all variables approximated normality (i.e., values<2.0).

A total of 222 students completed the questionnaires; demographic variables included gender, age, and grade. 143 participants were male (64.4 %), 74 were female (33.3 %), and 5 did not report gender status (2.3 %). The age range for the sample was 12 to 18 years old (M=14.33, SD=1.24) and 7th to 12th grade. Table 1, based on the pooled results, shows that the scores of the social anxiety measure have a positive correlation with those

Table 1: Descriptive statistics of the main variables

Variable	Range	Mean (SD)	Cronbach	1	2	3	4	5	6	7	8	9
1. SAS-A	16-80	40.41 (12.27)	0.86	-								
2. SPWSS anticipatory Processing	0-8	3.39 (2.44)	-	0.33***	-							
3. SPWSS self-focus	0-8	4.30 (2.40)	-	-0.03	0.07	-						
4. FAQ self-focus	5-25	15.79 (4.13)	0.64	0.03	0.15*	-0.03	-					
5. RYSC	14-70	31.26 (10.87)	0.86	0.58***	0.41***	0.01	0.04	-				
6. SAFE	28-140	71.89 (19.23)	0.87	0.63***	0.53***	0.10	0.14*	0.67***	-			
7. SPWSS post-event processing	0-8	3.35 (2.41)	-	0.41***	0.43***	0.10	0.13	0.40***	0.55***	-		
8. PEPQ	0-100	48.98 (24.97)	0.75	0.28***	0.33***	-0.01	0.19**	0.29***	0.35***	0.29***	-	
9. BDSRS	0-36	8.58 (5.04)	0.78	0.45***	0.23**	0.02	-0.09	0.45***	0.43***	0.28***	0.25***	-

All summary scores for measures are sum totals with the exception of the SPWSS items (because they are single items) and the PEPQ, which yields an average item score. SAS-A: Social Anxiety Scale for Adolescents; SPWSS: Social Phobia Weekly Summary Scale; FAQ: Focus of Attention Questionnaire; RYSC: Report of Youth Social Cognitions; SAFE: Subtle Avoidance Frequency Examination; PEPQ: Post-Event Processing Questionnaire; BDSRS: Birleson Depression Self-Rating Scale; ***P<0.001; **P<0.01; *P<0.05

Table 2: Mean differences between high (top 25% of SAS-A scores) and low (bottom 25% of SAS-A scores) socially anxious groups

Variable	Low socially anxious group, Mean (SD)	High socially anxious group, Mean (SD)	F	P	Cohen's d
SAS-A	23.69 (3.86)	54.78 (5.31)	1128.60	<0.001	0.92
SPWSS anticipatory processing	2.53 (2.22)	4.71 (2.31)	21.62	<0.001	0.19
SPWSS self-focus	4.82 (1.87)	4.26 (2.62)	1.41	0.235	0.02
FAQ self-focus	15.53 (4.35)	15.73 (4.49)	0.05	0.816	0.00
RYSC	24.40 (7.00)	39.73 (9.83)	77.99	<0.001	0.45
SAFE	58.86 (12.57)	88.52 (19.82)	69.42	<0.001	0.45
SPWSS post-event processing	2.24 (2.31)	4.53 (2.26)	25.00	<0.001	0.21
PEPQ	41.62 (27.28)	59.10 (20.81)	12.60	<0.001	0.12
BDSRS	5.56 (3.65)	11.51 (4.93)	43.66	<0.001	0.33

SAS-A: Social Anxiety Scale for Adolescents; SPWSS: Social Phobia Weekly Summary Scale; FAQ: Focus of Attention Questionnaire; RYSC: Report of Youth Social Cognitions; SAFE: Subtle Avoidance Frequency Examination; PEPQ: Post-Event Processing Questionnaire; BDSRS: Birleson Depression Self-Rating Scale

of anticipatory processing, maladaptive social-evaluative beliefs, safety behaviors, and post-event processing, such that all ranged from 0.28 to 0.63 (all P<0.001). However, the scores of the social anxiety measure had no significant correlation with those of self-focused attention (rs=-0.03 and 0.03, both P=0.618).

In terms of the mean differences between the measures, participants with available SAS-A data were used to form high (top 25% of SAS-A scores) and low (bottom 25% of SAS-A scores) socially anxious groups. Table 2 shows the pooled descriptive statistics and pooled ANOVA results in the imputed datasets. Consistent with the correlation results, low and high anxious groups had significantly higher scores of social anxiety disorder and all the maintaining factors (for P<0.001; the range of Cohen's d was from 0.12 to 0.92). There were no significant differences between the groups in terms of self-focused attention (both P=0.235).

Given that not all the maintaining factors were significantly related to social anxiety, and some constructs were gauged with two measures, subsequent regression analyses proceeded with only those maintaining factors that had significant correlations with social anxiety. In cases where two measures of the same construct were significant, the measure with the highest correlation was included as the anticipator. Table 3 shows the results of the regression models; in each imputed dataset, for all the regression models, the highest variance inflation factor (VIF) was 2.85, indicating that multi-collinearity was not a problem (i.e., because VIF<10). When we assumed that social anxiety was the dependent variable, maladaptive social-evaluative beliefs (β=0.29, P<0.001) and safety behaviors (β=0.41, P<0.001), but not anticipatory processing (β=-0.03, P=0.585) and post-event

Table 3: Maintaining factors and their correlation with social anxiety and depression

Variable	DV=Social anxiety		DV=Social anxiety; accounting for depression as a covariate		DV=Depression		DV=Depression; accounting for social anxiety as a covariate	
	β	P	*B*	P	*β*	P	*β*	P
SPWSS anticipatory processing	-0.03	0.585	-0.03	0.682	-0.05	0.498	-0.04	0.567
RYSC	0.29	<0.001	0.24	0.003	0.29	0.001	0.22	0.014
SAFE	0.41	<0.001	0.37	<0.001	0.24	0.025	0.14	0.198
SPWSS post-event processing	0.08	0.245	0.07	0.295	0.05	0.505	0.03	0.669
SAS-A	-	-	-	-	-	-	0.23	0.006
BDSRS	-	-	0.17	0.006	-	-	-	-
Total R^2	0.44		0.47		0.24		0.27	

DV: Dependent Variable; SPWSS: Social Phobia Weekly Summary Scale; Report of Youth Social Cognitions; SAFE: Subtle Avoidance Frequency Examination; SAS-A: Social Anxiety Scale for Adolescents; BDSRS: Birleson Depression Self-Rating Scale

processing (β=0.08, P=0.245), had unique significant positive associations with social anxiety (Total R^2=0.44). This pattern of the results for the predictors remained the same when this model was re-run and accounted for depression levels (Total R^2=0.47). Indeed, maladaptive social-evaluative beliefs (β=0.24, P=0.003) and safety behaviors (β=0.37, P<0.001), but not anticipatory processing (β=-0.03, P=0.682) and post-event processing (β=0.07, P=0.295), had unique significant positive associations with social anxiety. In the model with depression level as the dependent variable, maladaptive social-evaluative beliefs (β=0.29, P<0.001) and safety behaviors ((β=0.24, P=0.025)), but not anticipatory processing (β=-0.05, P=0.498) and post-event processing (β=0.05, P=0.505), had unique significant positive associations with depression (Total R^2=0.24). This pattern of the results changed when we considered social anxiety level in that maladaptive social-evaluative belief (β=0.22, P=0.014) was the only maintaining factor variable with a unique positive association with depression (Total R^2=0.27).

4. Discussion

The study results demonstrated that social anxiety had a positive correlation with scores of pre- and post-event rumination, safety behaviors, and maladaptive social-evaluative beliefs. The participants with high social anxiety had significantly greater scores on the severity of anxiety and all the maintaining factors except self-focused attention. The teenagers who experienced significant anxiety in social situations expressed that their anxiety levels were higher compared to the group of adolescents with low social anxiety in using anticipatory processing, maladaptive social-evaluative beliefs, safety behaviors, and post-event rumination, but there was no significant difference between the two groups in using self-focus. A comparison of the level of explained variance between social anxiety and the level of depression as a dependent variable showed that the preservation factors explained more variance in social anxiety scores (44% and 47%) in the models with social anxiety as the dependent variable than depression scores (24% and 27%) in the models with depression level. Self-focused attention did not anticipate anxiety in social situations.

These findings were consistent with Clark and Wells (1995) Cognitive Model (3) and the existing literature (7-10, 12, 14). Ranta and colleagues demonstrated that teenagers with high social anxiety reported negative observer-perspective images, overall negative thoughts, and safety behaviors more frequently than normal teenagers (8). Blöte and co-workers found that teenagers with higher social anxiety reported higher self-focused attention, more negative performance expectations, and a negative understanding of the audience (9). Also, Wong and colleagues (11) and Lidle and Schmitz (12) indicated a strong relationship between social anxiety and anticipatory processing in children and teenagers. Moreover, Chiu and co-workers showed that negative social beliefs, safety behaviors, self-focused attention, and post-event rumination in social situations anticipated prospective levels of social anxiety (10).

Given the results from previous studies as well as those of Clark and Wells' study, the present study revealed that there was a correlation between social anxiety and anticipatory (3, 11, 12). It seems that controlling of the above mentioned variables

in adolescent students based on the Clark and Wells' model leads to decrease their social anxiety. Accordingly, individual self-awareness and social interactions in between teenagers will increase. According to Kilford and colleagues, in addition to increased self-consciousness, teenagers are also normally very sensitive to peer group influence as adolescence is a critical stage of social learning. Moreover, social relationships during adolescence are especially valuable, and this in turn affects social interactions (37).

As explained, self-focused attention did not anticipate social anxiety. This can be explained by the way that the study participants focused on the external signs of threat caused by a given social situation. Our findings were in agreement with those of the studies by Rapee and Heimberg (38), Schultz and Heimberg (39), and Clark and Wells (3). However, Rapee and Heimberg's model (38) was not consistent with Clark and Wells model (1995) as internal self-focus is mostly significant in Maintain Social Anxiety Disorder. Thus, Schultz and Heimberg (39) reviewed the evidence for both models of Rapee and Heimberg (38) and Clark and Wells (3) and demonstrated remarkable empirical support for the claim that individuals with social anxiety disorder devoted attentional resources to external threat and internal resources of threat; however, according to Clark and Wells model (1995), self-focus is mostly significant in Maintain Social Anxiety Disorder (3).

Generally, our results were in line with previous studies, offering cognitive components to social anxiety in Iranian teenage population. Also, 47% of the variance of main scale was explained by the cognitive model; thus, it seems that this model (3) not only is applicable to non-clinical teenage groups, but also can be applied to clinical groups of Iranian teenagers with social anxiety. Leigh and Clark (20) examined the potential application of adult cognitive model of Clark and Wells (3) to understand the teenagers' social anxiety and proposed that a developmentally sensitive adoption of this model of SAD for teenagers may lead to greater psychotherapy outcomes. Hence, given the working models of social anxiety disorder in Iranian teenagers, effective treatments can be designed for teenagers. It would be interesting to specify the extent to which other factors, such as family performance, parents' level of anxiety, and peer influence can anticipate social anxiety. According to the findings of the present study, it is proposed that the role of external and internal symptoms in the conservation of social anxiety disorder should be investigated in future studies by comparing the models proposed by Clark and Wells (3) and Rapee and Heimberg (38).

4.1. Limitation

One of the limitations of the present study is that some students did not complete the questionnaires and some others completed the questionnaires incompletely; on the other hand, the collected data were self-reported. Another limitation of the study is that our findings can be generalized to Iranian teenagers, so generalizing the results to other age groups should be done with caution.

5. Conclusion

Iranian adolescent students, anticipatory processing, maladaptive social-evaluative beliefs, safety behaviors, and post-event processing had a correlation with social anxiety; also, the high socially anxious groups obtained significantly greater scores on the social anxiety measure and all the maintaining factors except self-focus measure.

Acknowledgement

We acknowledge Mr. Quincy J. J. Wong for data analysis. The authors would also like to thank Shiraz University of Medical Sciences, Shiraz, Iran and Center for Development of Clinical Research of Nemazee Hospital. Also, we acknowledge Dr. Nasrin Shokrpour for editorial assistance.

Funding

This study was funded by Shiraz University of Medical Sciences (grant number 22649).

Ethical Approval

This research was approved by Ethics Committee of Shiraz University of Medical Sciences with the code of IR.SUMS.REC.1400.625. Also, written informed consent was obtained from the participants.

Authors' Contribution

Ali Ghasemi: Substantial contributions to the

conception and design of the work, drafting the work. Esmail Soltani: Substantial contributions to the conception and design of the work, analysis, interpretation of data for the work, drafting the work. Najmeh Hejazi: Substantial contributions to the conception and design of the work, revision of the manuscript critically for important intellectual content. All authors approved the final version to be published and agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Conflict of interest: None declared.

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