Journal of Fundamentals of Mental Health

Mashhad University of Medical Sciences

Psychiatry and Behavioral Sciences Research Center

Original Article

Evaluation of Lynch's transdiagnostic model for internalizing disorders regarding social phobia: Structural equation modeling

***Khadije Alavi[1]; Mohammad Ali Asghari Moghadam[2]; Abbas Rahiminezhad[3]; Hojjatollah Farahani[4]**

[1]Ph.D. in Clinical Psychology, Assistant Professor, University of Bojnord, Bojnord, Iran.
[2]Ph.D. in Clinical Psychology, Professor, Department of Clinical Psychology, Shahed University, Iran.
[3]Associate Professor, Department of Psychology, Tehran University, Tehran, Iran.
[4]Department of Psychology, Tarbiat Modares University, Tehran, Iran.

Abstract

Introduction: Lynch's model is a new transdiagnostic model that explains the development of internalizing disorders. The present study has examined essential parts of this model regarding social phobia as an internalizing disorder.

Materials and Methods: In this study, 521 students were recruited from three universities (Tehran University, Shahed University, and Islamic Azad University-Tehran Medical Branch) in the academic year of 2015-2016 using the convenience sampling method. They responded to the Social Phobia Inventory, Frost Multidimensional Perfectionism Scale (maladjusted perfectionism subscales), Ambivalence over Expression of emotion Questionnaire, Social Safeness and Pleasure Scale and the Inventory of Interpersonal Problems. Data analyzed through structural equation modeling, SPSS-22, and AMOS-22 software.

Results: The model showed good fit (χ^2/df: 2.9, RMSEA: 0.06, CFI: 0.98, GFI: 0.98, AGFI: 0.96). According to the results, over-controlling coping style (including over-perfectionism, emotional ambivalence, interpersonal problems and lack of social safeness) mediates the relationship between parental perfectionism and social phobia (indirect effect of parental perfectionism on social phobia via over controlling: 0.35, $P< 0.001$).

Conclusion: It seems that Lynch's transdiagnostic model for internalizing disorders got support regarding social phobia. Accordingly, the parental maladaptive perfectionism leads to an over-controlling coping style. This coping style, in turn, leads to social phobia.

Keywords: Self control, Social phobia, Transdiagnostic model.

Please cite this paper as:
Alavi Kh, Asghari Moghadam MA, Rahiminezhad A, Farahani H. Evaluation of Lynch's transdiagnostic model for internalizing disorders regarding social phobia: Structural equation modeling. Journal of Fundamentals of Mental Health 2020 Jul-Aug; 22(4): 257-256.

***Corresponding Author:**
Department of Psychology, University of Bojnord, Bojnord, Iran.
kh.alavi@ub.ac.ir
Received: Sep. 27, 2019
Accepted: Jul. 29, 2020

Introduction

One of the challenges and complexities in the treatment of mental disorders is comorbidity or the presence of diagnostic criteria for more than one mental disorder simultaneously. Comorbidity in mental disorders is associated with greater severity of symptoms (1), more significant dysfunction (2), and a higher risk of treatment resistance (3).

Social phobia, as one of the most common mental disorders is associated with a high rate of comorbidity, dysfunction, and economic costs (1,4-7).

Among patients with social phobia, the likelihood of comorbid disorders-especially depressive disorders and other anxiety disorders- is high and some studies have estimated this risk as high as 90% (5,8,9). Especially regarding depressive disorders, social phobia is temporally primary in most cases. The available evidences suggest that social phobia precedes and plays a causal role in the vulnerability to subsequent depression and the deterioration of comorbid depressive disorders (10-14). In general, the presence of comorbid disorders can affect the course of the disease in several ways, for example, comorbidity in patients with social phobia accompanied by an increase in the severity of the symptoms, further decrease of function, well-being, quality of life, and treatment resistance (15-17). Accordingly, the combination of a high prevalence of social phobia, the disabling nature of this condition, and comorbidity has made social phobia a major public health disorder (18). One of the significant challenges of social phobia is suboptimal treatment responses. Currently, two treatments are known as the gold standards for social phobia: Cognitive Behavior Therapy (CBT) and medication. Both treatments are only moderately effective, and a large proportion of patients have symptoms after the intervention (19-21). Comorbidity may be one of the factors reducing the treatment response to social phobia. Some studies suggest that individuals with comorbidity may need different treatment approaches than individuals without comorbidity (18,22). However, traditional CBT appears to be effective in single disorders (without comorbidity) (22). Accordingly, it seems that resolving the challenges in the treatment of social phobia requires a therapeutic approach that considers the co-occurrence of disorders in its pathological perspective instead of considering the disorders separately.

A promising attempt to solving this problem is provided by transdiagnostic approaches. These approaches try to overcome these problems by focusing on identifying the common and core maladaptive temperamental, psychological, cognitive, emotional, interpersonal, behavioral processes, and targeting these factors in the treatment (23).

A new transdiagnostic model is Lynch's model (24-26) that explains the development of internalizing disorders, their comorbidity, and how they become chronic and resistant to treatment. The internalizing disorders (including depressive disorders, anxiety disorders, obsessive-compulsive disorder, and cluster A and C personality disorders) represent a large category of DSM disorders that along with externalizing disorders (including attention deficit- hyperactive disorder, conduct disorder, and cluster B personality disorders) constitute one of the broadest categorizations of mental disorders (27-29). The core construct in Lynch's theory is over-controlling (OC). OC (i.e., excessive control of urges, impulses, and drives (24-25)) is a type of coping style that characterized by ambivalence over emotional expression/ inhibition of emotion and over-perfectionism (maladaptive perfectionism). In Lynch's theory, this coping style can lead to a rigid and limited interaction style interfering with new learning and social connectedness. That is, OC leads to social disconnectedness manifested in the form of interpersonal problems and a lack of social safeness (sense of warmth and belonging). The previous study suggests that this social disconnectedness is strongly correlated with OC and perhaps it is better to be conceptualized as a dimension of OC rather than its consequence (30).

According to Lynch's biosocial theory, which explains how OC develops and affects internalizing disorders, the development of OC coping style, results from the interaction between a temperamental factor (biological factor- nature) and an environmental (family) factor (social factor- nurture). In the biological dimension, it is supposed that people with OC coping style, show high sensitivity to threats and low sensitivity to rewards. In the social dimension, it is supposed that these people have been fostered in families and

environments emphasizing "mistakes as intolerable" and "self-control as imperative". Accordingly, Lynch offers a common pathological model for internalizing disorders that includes the underlying factors of nature and environment and a coping style consisting of cognitive, emotional, and behavioral components that ultimately lead to the development of an internalizing disorder including anxiety and depressive disorders (24,25). The present study aimed to examine some of the essential parts of this model regarding social phobia as an internalizing disorder so that the pathological perspective of a new transdiagnostic treatment approach that can help to resolve therapeutic challenges and improve treatment response, be investigated.

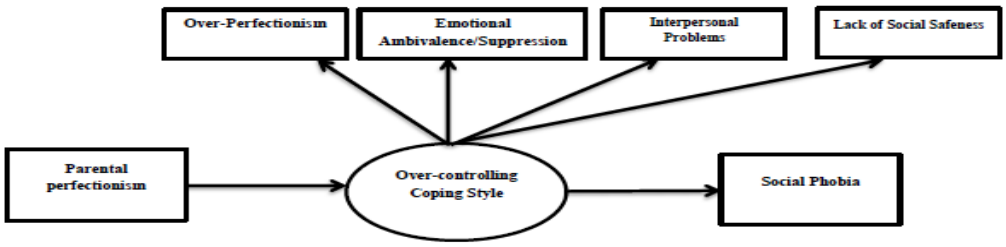


Figure1. Structural model of over-controlling in social phobia based on Lynch's theory

Materials and Methods

The statistical population of this study consists of students of three universities (Tehran University, Shahed University, and Azad University-Tehran Medical Branch) in the academic year of 2015-2016 (N=73000). The sample size is calculated based on the research literature related to the SEM. There are differing views in this field. Loehlin (31) emphasized that for using the SEM method, the minimum sample size and the desired sample size are 100 and 200, respectively. Norman and Streiner (32) stated that there should be ten subjects for each parameter in this method. Kline (33) recommends the minimum sample size of 200. He also considers the rule of 20 subjects for each parameter in the model to be ideal for calculating the SEM sample size. Hooman (34) also considered the sample size of 300 cases as good, 500 people as very good, and 1000 people as excellent.

Considering all of these views, the sample size of this study was determined to be 500 individuals. Taking into account the probability of dropout, 584 people were selected through convenience sampling. Amongst them, 521 questionnaires had the criteria to enter the analysis (80% females). The inclusion criteria were to be a university student and aged 18-35 years. Exclusion criteria included physical disabilities, including blindness and deafness.

Measures were completed in groups of 15-25 persons. To reduce the effect of fatigue on the final items, the questionnaires were randomly placed in assessment packages. In this study, concerning the code of ethics for psychologists and counselors (Psychology and Counseling Organization of Iran), the following issues considered: 1. Participating in the research was voluntary for all the cases. 2. Participants get information about the research and activity that they have to do, and informed consent was obtained. 3. The questionnaire was completed anonymously. Also, other information about the participants was kept confidential and the research report is presented in such a way that it is not possible to identify the participants. The research project was approved by the ethics committee of the research and technology division at Shahed University.

Research instrument

A) Demographic Information Questionnaire: This questionnaire was developed based on the publication manual of the American Psychological Association (35) and contained information about age, gender, and educational attainment. According to this manual, this information can affect the

interpretation of the results. Even when this information is not used in the analysis, it helps the reader to have a more accurate understanding of the nature of the sample and thus the generalizability of the results. According to this manual, such information is beneficial for future meta-analytic studies that may want to include the study.

B) Social Phobia Inventory (SPIN): The Persian version of SPIN was used to assess the symptoms of social phobia. SPIN is a 17 items self-report measure that assesses the severity of social phobia. In SPIN, each item is scored on a 5-point Likert scale, ranging from 1 to 5. SPIN has shown excellent reliability and validity. Internal consistency ranged from 0.82 to 0.95 for the original version and from 0.74 to 0.89 for the Persian version. SPIN also has shown good construct validity (36-39).

C) Frost Multidimensional Perfectionism Scale (FMPS) - maladaptive perfectionism subscales: The maladaptive perfectionism subscales of FMPS- the Persian version, was used to assess personal and parental maladaptive perfectionism. FMPS has 35 items and six subscales- Concern over making Mistakes (CM), Personal Standards (PS), Parental Expectations (PE), Parental Criticism (PC), Doubts about actions (D), and Organization (O). CM (9 items), D (4 items), PE (5 items) and PC (4 items) subscales assess maladaptive perfectionism- CM and D evaluate personal maladaptive perfectionism, while PE and PC evaluate parental maladaptive perfectionism. Each item is scored 1 to 5, and total scores range from 13 to 65 for personal perfectionism and 9 to 45 for parental perfectionism. The higher scores indicate higher perfectionism (40). Cronbach's alpha has been reported 0.77 to 0.88 for the original version and 0.80 to 0.86 for the Persian version. FMPS also showed good test-retest reliability (0.53 to 0.84 for the Persian version) and convergent validity (40,41).

D) Ambivalence over Expression of emotion Questionnaire (AEQ): The Persian version of AEQ was used to assess the emotional dimension of OC. It has 23 items. AEQ has good internal consistency (α: 0.89 for the original version and 0.86 for the Persian version) and test-retest reliability (0.78 for the original version and 0.79 for the Persian version). AEQ also showed adequate convergent validity (42,43). In AEQ, each item is scored from 1 to 5. Total scores range from 23 to 115. The higher scores indicate higher ambivalence over-expression of emotion (42).

E) Social Safeness and Pleasure Scale (SSPS): The Persian version of SSPS was used to assess social safeness. It has 11 items. SSPS has excellent internal consistency (α: 0.91 to 0.94 for the original version and 0.91 for the Persian version) and test-retest reliability (0.82 for the Persian version). It has good convergent and divergent validity, too (44-46). In SSPS, each item is scored from 1 to 5. Total scores range from 11 to 55. The higher scores indicate higher social safeness (44).

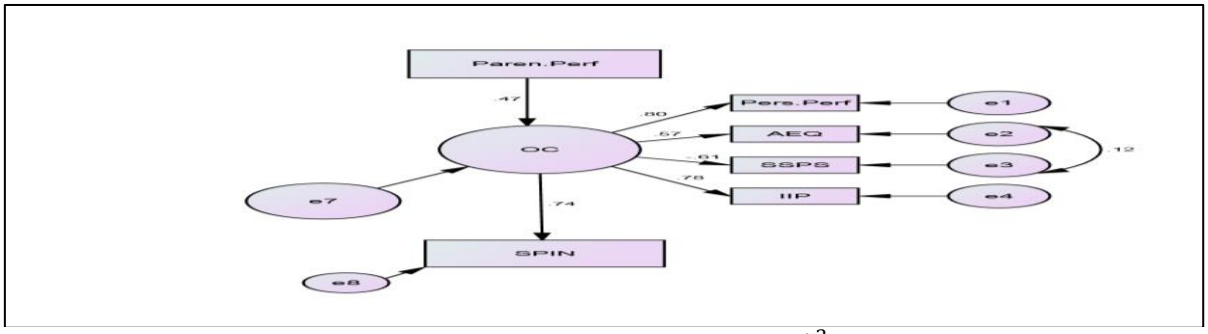
F) Inventory of Interpersonal Problems (IIP): The Persian version of IIP is used to assess problems in interpersonal relationships. It has 29 items. Each item is scored from 1 to 5. Total scores range from 29 to 145. The higher scores indicate more interpersonal relationship problems. IIP has excellent internal consistency (α: 0.86 for the original version and 0.91 for the Persian version) and test-retest reliability (0.70 for the original version). It has shown construct validity, too (47-48). Data analysis was performed using structural equation modeling (SEM). The bootstrap method was used to evaluate the mediating effect. We used SPSS-22 and AMOS-22 software to analyze the data.

Results

Before running the analysis, data were evaluated in terms of appropriateness for SEM. Three assumptions were evaluated: (1) absence of missing data, (2) univariate and multivariate normality, (3) and absence of multivariate outliers. The data met the assumptions. In the second step, measurement models were evaluated and confirmed. In the next step, the structural model was evaluated. In the structural model, the supposed relationships between the variables, according to the hypothesis, were evaluated. In this part, we tested whether the structural model based on Lynch's theory –the relationship between parental perfectionism and internalizing disorders with the mediation of OC coping style (over-perfectionism, emotional ambivalence, interpersonal problems, and lack of social safeness), get support regarding social phobia. Table 1 shows the correlation between the variables of the model, and Figure 2 shows the structural model with the path coefficients and goodness of fit indices.

Table 1. Correction matrix related to the variables of model

	1	2	3	4	5	6
1. FMPS-Parental	1					
2. FMPS- Personal	0.44**	1				
3. AEQ	0.31**	0.46**	1			
3. IIP	0.34**	0.63**	0.52**	1		
5. SSPS	-0.25**	-0.46**	-0.27**	-0.47**	1	
6. SPIN	0.30**	0.58**	0.43**	0.59**	-.50**	1



Paren.Perf: Parental Perfectionism; Pers.Perf: Personal Perfectionism; OC: Overconterolling $\chi^2/_{df}$: 2.9; RMSEA: 0.06 (0.03-0.09); CFI: 0.98; GFI: 0.98; AGFI: 0.96

Figure 2. Structural model of OC in social phobia based on Lynch's theory

As Figure 1 shows, all of the variables in the model have acceptable path coefficients. Also, the goodness of fit indices shows that the model has a good fitness. Below we describe each of these indices.

To test the fitness of structural model, we used relative χ^2 (the proportion of χ^2 to df), Root Mean square Error of Approximation (RMSEA), Comparative Fit Index (CFI), Goodness of Fit Index (GFI) and Adjusted Goodness of Fit Index (AGFI). Wheaton et al. (49) reported Relative $\chi^2 \leq 5$, and Kline (50) introduced Relative $\chi^2 \leq 3$ as an indicator of a good fitness. Therefore, $\chi^2/_{df}$ has acceptable value in our model. The next index is RMSEA that identified as one of the most useful goodness of fit indices (51). Hu and Bentler (52) suggested that values less than 0.06 indicate a good fitness.

So RMSEA value in our model is relatively acceptable. The next value is CFI. The values of CFI vary 0 to 1. To the extent that this value gets closer to 1, the model has a better fitness. Hu and Bentler (52) reported a cut off criterion of ≥ 0.95 as a good fit. Like CFI, GFI and AGFI values range between 0 to1, and to the extent that these values get closer to 1, the model has a better fit.

A cutoff point of 0.90 has been recommended for these two values (53,54). Therefore, in our model, CFI, GFI and AGFI show good fitness too.

To investigate the indirect effects (mediation analysis) we used the bootstrap method (55). The reproduction number was 2000, and the CI was %95. Results (Table 2) showed that OC mediates the relationship between parental perfectionism and social phobia (β= 0.35).

Table 2. Total, direct and indirect effects of variables in the model

		Total effect	Direct effect	Indirect effect
Parental perfectionism	OC	0.47***	0.47***	
OC	Social phobia	0.74***	0.74***	
Parental perfectionism	Social phobia	0.35***		0.35***

P≤0.001

Discussion

This study examined Lynch's transdiagnostic model for explaining internalizing disorders regarding social phobia as an example of internalizing disorders. The results of the study showed that the model fits the experiential data. Accordingly, the parental maladaptive perfectionism as a fundamental factor (nurture or environment in Lynch's theory) leads to an over-controlling coping style characterized by

personal maladaptive perfectionism, ambivalence overexpression of emotions, interpersonal problems, and lack of social safeness. This coping style, in turn, leads to social phobia. The mediational model analysis also confirmed that parental perfectionism leads to social phobia, through an OC coping style.

The finding of this study regarding the role of the environmental variable of parental perfectionism as a predisposing factor of social phobia is consistent with the research findings of Per Villiers (56) and Mohammadian et al. (57). In these two studies with student samples, the results indicated that parental perfectionism (measured by parental expectations and parental criticism subscales of Frost multidimensional perfectionism scale) has a significant positive correlation with social phobia.

The finding that over-control mediated the relationship between parental perfectionism and social phobia is primarily consistent with the findings of the researches on Block and Block personality types, which showed that the over-controlled type relates to internalizing disorders (58-60). The conducted studies suggest that maladaptive perfectionism is a transdiagnostic factor in depressive, anxiety, and eating disorders that predict the vulnerability to these disorders, their persistence, the prognosis of the treatment, and their comorbidity (61-62). In a study on student samples, Per Villiers (56) and Nikooi (63) reported a relationship between personal maladaptive perfectionism and social phobia. Also, in a study by Levinson et al. (64) conducted on two samples of students (n=602) and patients with social phobia (n=180), the results showed a significant positive correlation between personal maladaptive perfectionism (measured by the maladaptive personal subscales of Frost multidimensional perfectionism scales) and social phobia.

Yap et al. (65) and Newby et al. (66) found similar results on the general population. Studies suggest that among anxiety disorders, social phobia (the central feature of which is difficulty in interpersonal and social relationships) is most related to maladaptive perfectionism (in the individual) and parental perfectionism (67,68).

Regarding the relationship between difficulty in expressing emotion and social phobia, the findings of the current study are consistent with the research literature. For example, a study showed that adolescents with more social phobia symptoms reported less emotional awareness, more dysregulated emotional expression, and less use of emotion management strategies compared to controls (69). Spokas et al. (70) concluded that people with social phobia use more emotion suppression, have more ambivalence over emotional expression, and they are more afraid of emotional experiences than those without this disorder. These people also have more negative beliefs about expressing emotion (for example, expressing emotion is a sign of weakness). Also, a systematic review study (71) showed that social phobia is broadly characterized by the suppression of emotional expression.

Regarding the relationship between interpersonal/social problems and social phobia, the findings of the present study, confirm the previous findings in this field. For example, in a study on a large sample of adolescents (n=3278), the results showed a relationship between social phobia and interpersonal impairments (72). Also, in a study conducted on two clinical samples of patients with social phobia and patients with unipolar depression, the results indicated that patients with social phobia had higher scores in the interpersonal problems measure than patients with unipolar depression, and healthy people (73). Romano et al. (74) found that patients with social phobia are less able to solve interpersonal problems than the healthy control group effectively.

Regarding the relationship between parental perfectionism and personal perfectionism in offspring, the findings of the present study, are in line with the literature that has shown that parental perfectionism is related to children's perfectionism (75-78).

No study was found on the relationship between parental perfectionism and ambivalence over emotional expression. However, the available evidences support the relationship between the adverse childhood environment in general and ambivalence over emotional expression. For example, Choi Ju and Suh Kyung (79) showed that ambivalence over emotional expression is positively correlated with parental rejection and negatively correlated with perceived parental acceptance. A study by Hopfinger et al. (80) on patients with major depressive disorder

found that adverse childhood events associated with the severity as well as the persistence of depression via negatively affecting the ability to regulate emotion (as a mediating variable).

Regarding the relationship between parental perfectionism and social connectedness, Huh et al. (81), in a study on 325 outpatients with depressive and anxiety disorders, showed that adverse childhood experiences have a significant relationship with interpersonal problems in adulthood. In Dang's study (82), perceived social support was a relative mediator in the relationship between parental perfectionism and depression. The findings of Kelly and Dupasquier (83) also indicate a negative relationship between social safeness and parental rejection and a positive relationship between social safeness and perceived social support.

Overall, the results of the conducted studies and the present study confirming the role of OC (based on Lynch's definition) in depression (30), provide primary empirical evidence in support of Lynch's trans-diagnostic model. However, further studies are needed to determine if the model can explain the shared vulnerability in other internalizing disorders, as Lynch claims. Confirmation of this model through experiential data in other studies can make essential progress in explaining and treating mental disorders. The reason is that a transdiagnostic model of internalizing disorders can 1. Lead to a more compendious approach to the treatment of disorders and increase the effectiveness of treatment by facilitating the learning of treatment protocols (23,84-86). 2. Facilitate the generalizability of treatment effects to comorbid internalizing disorders by targeting the commonalities (86). 3. Target the higher-order factors of internalizing disorders, that play an important role in the development and maintenance of internalizing disorders, more directly and more comprehensively (86). Accordingly and considering the effectiveness of RO-DBT (i.e., the therapeutic approach based on the pathological model studied in this study) in some internalizing disorders such as chronic depression (87) and anorexia nervosa (24). It is hoped that this therapeutic approach will be able as a new option in psychotherapy to address the challenges of treating social phobia, including treatment failure and residual symptoms that can be affected by the presence of comorbid disorders. Limitations of this research should be considered in the interpretation of the findings. First, the participants of this study were university students aged 18-32 years; therefore, the generalization of the results to other populations should be made with caution. On the other hand, females constituted %80 of the samples, limiting the generalization of results to males. Accordingly, there are some recommendations for future researches. First, examine the model in other populations (general non-student population and clinical populations) to extend the generalizability of the findings. Second, keeping gender balance in research samples can improve the generalizability of the findings too.

Conclusion

Based in the findings, Lynch's trans-diagnostic model for internalizing disorders regarding social phobia was confirmed. Accordingly, parental maladaptive perfectionism leads to an over-controlling coping style; this coping style, in turn, leads to social phobia.

Acknowledgment

This article has been done with the approval of the ethics committee of the research and technology division in Shahed University. The authors declared any conflict of interests. The authors offer their thanks to all of the students who have participated in this study.

References

1. Kessler RC, Chiu W, Demler O, Walters EE. Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the National Comorbidity Survey Replication. Arch Gen Psychiatry 2005; 62: 617-27.

2. Forman–Hoffman VL, Batts KR, Hedden SL, Spagnola K, Bose J. Comorbid mental disorders among adults in the mental health surveillance survey. Ann Epidemiol 2018; 28(7): 468-74.

3. Alonso, J, Mortier, P, Auerbach, RP, Bruffaerts R, Vilagut G, Cuijpers P, et al. Severe role impairment associated with mental disorders: Results of the WHO World Mental Health Surveys International College Student Project. Depress Anxiety 2018; 35: 802-14.

4. Hendriks SM, Spijker J, Licht CMM, Hardeveld F, de Graaf R, Batelaan NM, et al. Long-term disability in anxiety disorders. BMC Psychiatry 2016; 16(1): 248.

5. Stein DJ, Lim CCW, Roest AM, de Jonge P, Aguilar-Gaxiola S, Al-Hamzawi A, et al. The cross-national epidemiology of social anxiety disorder: Data from the World Mental Health Survey Initiative. BMC Med 2017; 15(1): 143.
6. Narusyte J, Amin MR, Svedberg P. Social phobia in adolescence, sickness absence and unemployment: a prospective twin study. *Eur J Public Health* 2017; 27(suppl 3): ckx189.130.
7. Wittchen HU, Fehm L. Epidemiology, patterns of comorbidity, and associated disabilities of social phobia. Psychiatr Clin N Am 2001; 24(4): 617-41.
8. Ruscio AM, Brown TA, Chiu WT, Sareen J, Stein MB, Kessler RC. Social fears and social phobia in the USA: results from the National Comorbidity Survey Replication. Psychol Med 2008; 38(1): 15-28.
9. Koyuncu A, İnce E, Ertekin E, Tükel R. Comorbidity in social anxiety disorder: diagnostic and therapeutic challenges. Drugs Context 2019; 8: 212573.
10. De Graaf R, Bijl RV, Spijker J, Beekman ATF, Vollebergh WAM. Temporal sequencing of lifetime mood disorders in relation to comorbid anxiety and substance use disorders. Findings from the Netherlands Mental Health Survey and Incidence Study. Soc Psychiatr Psychiatr Epidemiol 2003; 38: 1-11.
11. Ohayon MM, Schatzberg AF. Social phobia and depression: Prevalence and comorbidity. J Psychosom Res 2010; 68(3): 235-43.
12. Cummings CM, Caporino NE, Kendall PC. Comorbidity of anxiety and depression in children and adolescents: 20 years after. Psychol Bull 2014; 140(3): 816-45.
13. Beesdo K, Bittner A, Pine DS, Stein MB, Hofler M, Lieb R, et al. Incidence of social anxiety disorder and the consistent risk for secondary depression in the first three decades of life. Arch Gen Psychiatry 2007; 64(8): 903-12.
14. Kraines MA, White EJ, Grant DM, Wells TT. Social anxiety as a precursor for depression: Influence of interpersonal rejection and attention to emotional stimuli. Psychiatr Res 2019; 275: 296-303.
15. Acarturk C, de Graaf R, van Straten A, Have M, Cuijpers P. Social phobia and number of social fears, and their association with comorbidity, health-related quality of life and help seeking: A population-based study. Soc Psychiatr Psychiatr Epidemiol 2008; 43: 273-9.
16. Wenzel, A. Relation to clinical syndromes in adulthood. In: Hofmann SG, DiBartolo PM. (editors). Social anxiety: Clinical, developmental, and social perspectives. 2nd ed. London: Academic Press; 2010: 183-205.
17. Nagata T, Suzuki F, Teo AR. Generalized social anxiety disorder: a still-neglected anxiety disorder 3 decades since Liebowitz's review. Psychiatry Clin Neurosci 2015; 69(12): 724-40.
18. Wersebe H, Lieb R, Meyer AH, Miche M, Mikoteit T, Imboden C, et al. Well-being in major depression and social phobia with and without comorbidity. Int J Clin Health Psychol 2018 ; 18(3): 201-8.
19. Blanco C, Heimberg RG, Schneier FR, Fresco DM, Chen H, Turk CL, et al. A placebo-controlled trial of phenelzine, cognitive behavioral group therapy, and their combination for social anxiety disorder. Arch Gen Psychiatry 2010; 67(3): 286-95.
20. Menezes GB, Fontenelle LF, Mululo S, Versiani M. Treatment-resistant anxiety disorders: social phobia, generalized anxiety disorder and panic disorder. Revista Brasileira de Psiquiatria 2007; 2: S55-60. (Brazilian)
21. Roy-Byrne P. Treatment in nonresponsive patients with social anxiety: Back to the future with benzodiazepines. Am J Psychiatry 2014; 171(1): 1-4.
22. Arch JJ, Ayers CR. Which treatment worked better for whom? Moderators of group cognitive behavioral therapy versus adapted mindfulness based stress reduction for anxiety disorders. Behav Res Ther 2013; 51: 434-42.
23. Newby JM, McKinnon A, Kuyken W, Gilbody S, Dalgleish T. Systematic review and meta-analysis of transdiagnostic psychological treatments for anxiety and depressive disorders in adulthood. Clin Psychol Rev 2015; 40: 91-110.
24. Lynch TR, Gray KL, Hempel RJ, Titley M, Chen EY, O´Mahen HA. Radically open-dialectical behavior therapy for adult anorexia nervosa: Feasibility and outcomes from an inpatient program. BMC Psychiatry 2013; 13: 293.
25. Lynch TR, Hempel RJ, Dunkley C. Radically open-dialectical behavior therapy for disorders of over-control: Signaling matters. Am J Psychother 2015; 69(2): 141-62.
26. Lynch T, Seretis D, Hemple R. Radically open-dialectical behaviour therapy: Theory and practice for treating disorders of overcontrol. New York: Guilford; 2018.
27. Achenbach TM, Edelbrock CS. The classification of child psychopathology: A review and analysis of empirical efforts. Psychol Bull 1978; 85(6): 1275-301.
28. Krueger RF, Caspi A, Moffitt TE, Silva PA. The structure and stability of common mental disorders (DSM-III-R): a longitudinal-epidemiological study. J Abnorm Psychol 1998; 107(2): 216-27.
29. Krueger RF, McGue M, Iacono WG. The higher-order structure of common DSM mental disorders: internalization, externalization, and their connections to personality. Pers Individ Diff 2001; 30(7): 1245-59.
30. Alavi Kh, Asghari Moghadam MA, Rahiminazhad A, Farahani H. [The evaluation of transdiagnostic model based on Lynche's theory in regard to depression in nonclinical population]. Journal of research in psychological health 2018; 12 (1): 37-53. (Persian)

31. Loehlin JC. Latent variable models: An introduction to factor, path and structural analysis. 4th ed. Hillsdale, NJ: Erlbaum; 2004.
32. Norman GR, Streiner DL. PDQ Statistics (PDQ Series). 3rd ed. Toronto: BC; 2003.
33. Kline RX. Principles and practicen of structural equation modeling. 3rd ed. New York: Guilford; 2011.
34. Hooman HA. [Structural equation modeling with LISREL application]. Tehran: SAMT; 2008. (Persian)
35. American Psychological Association. Publication manual of the American Psychological Association. 6th ed. Washington, DC: American Psychological Association; 2009.
36. Connor KM, Davidson JRT, Churchill LE, Sherwood A, Foa E, Weisler RH. Psychometric properties of the social phobia inventory (SPIN). Br J Psychiatry 2000; 176: 379-86.
37. Antony MM, Coons MJ, McCabe RE, Ashbaugha A, Swinsona RP. Psychometric properties of the social phobia inventory: Further evaluation. Behav Res Ther 2006; 44: 1177-85.
38. Atrifard M, Mokhberiannezhad R, Zarei A, Hoseini M. [Factor structure of the Persian form of social phobia inventory in an Iranian nonclinical sample]. Journal of research in psychological health 2015; 9(2): 40-53. (Persian)
39. Amoozadeh MH, Bagheri A, Shairi MR. [Reliability and validity of SPIN in nonclinical students' samples]. Proceeding of the 5th Seminar of students' mental health; 2010: 75-6. (Persian)
40. Frost RO, Marten P, Lahart C, Rosenblate R. The dimensions of perfectionism. Cogn Ther Res 1990; 14(5): 449-68.
41. Bitaraf Sh, Shaeeri MR, Hakim Javadi M. [Social phobia, parenting styles, and perfectionism]. Developmental psychology: Iranian psychologists 2010; 7: 75-82. (Persian)
42. King LA, Emmons RA. Conflict over emotional expression: psychological and physical correlates. J Pers Soc Psychol 1990; 58(5): 864-77.
43. Alavi Kh, Asghari Moghadam A, Rahiminezhad A, Farahani H. [Psychometric properties of ambivalence over emotional expression questionnaire]. Research in psychological health 2017; 11 (1): 74-91. (Persian)
44. Gilbert P, McEvan K, Mitra, R, Richter A, Franks L, Mills A, et al. An exploration of different types of positive affect in students and in patients with bipolar disorder. Clin Neuropsychiatry 2009; 6:135-43.
45. Alavi Kh, Asghari Moghadam A, Rahiminezhad A, Farahani H, Modares M. Psychometric properties of Social Safeness and Pleasure Scale (SSPS). Journal of fundamentals of mental health 2017; 19(1): 5-13.
46. Kelly AC, Carter JC. Eating disorder subtypes differ in their rates of psychosocial improvement over treatment. J Eat Disord2014; 2: 2.
47. Barkham M, Hardy GE, Startup M. The IIP-32: A short version of the Inventory of Interpersonal Problems. Br J Clin Psychol 1996; 35(1): 21-35.
48. Fath N, Azadfallah P, Tabatabayi K, Rahimi CH. [Validity and reliability of the inventory of interpersonal problems]. Clinical psychology 2013; 5(3): 69-80. (Persian)
49. Wheaton B, Muthen B, Alwin DF, Summers G. Assessing reliability and stability in panel models. Soc Method 1977; 8(1): 84-136.
50. Kline RX. Principles and practice of structural equation modeling. 4th ed. New York: Taylor and Francis group; 2016.
51. Diamantopoulos A, Siguaw JA. Introducing LISREL: A guide for the uninitiated. New York: Sage; 2009.
52. Hu LT, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Structural equation modeling 1992; 6(1): 1-55.
53. Byrne BM. Structural equation modeling with AMOS: Basic concepts, applications and programming. 2nd ed. New York: Taylor and Francis group; 2010.
54. Vieira AL. Interactive LISREL in practice: Getting started with a SIMPLIS approach. New York: Springer; 2011
55. Preacher KJ, Hayes AF. Asymptotic and resampling strategies for comparing indirect effects in multiple mediator models. Behav Res Methods 2008; 40: 879-91.
56. Per Villiers D. Perfectionism and social anxiety among college students. Ph.D. Dissertation. Boston, Massachusetts: Northeastern University, 2009.
57. Mohammadian Y, Mahaki B, Dehghani M, Vahid M, Lavasani F. Investigating the role of interpersonal sensitivity, anger, and perfectionism in social anxiety. Int J Prev Med 2018; 9(1): 2.
58. Asendorppf JB, Borkenau P, Ostendorf F, Van Aken MAG. Carving personality description at its joints: Confirmation of three replicable personality prototypes for both children and adults. Eur J Pers 2001; 15: 169-98
59. Robins RW, John OP, Caspi A, Moffitt TE, Stouthamer-Loeber M. Resilient, overcontrolled, and undercontrolled boys: three replicable personality types. J Pers Soc Psychol 1996; 70(1): 157-71.
60. Turner BJ, Claes L, Wilderjans TF, Pauwels E, Dierckx E, Chapman AL, et al. Personality profiles in Eating Disorders: Further evidence of the clinical utility of examining subtypes based on temperament. Psychiatr Res 2014; 219(1): 157-65.

61. Egan SJ, Wade TD, Shafran R. Perfectionism as a transdiagnostic process: A clinical review. Clin Psychol Rev 2011; 31(2): 203-12.
62. Rice KG, Aldea MA. State dependence and trait stability of perfectionism: A short-term longitudinal study. J Couns Psychol 2006; 53(2): 205-13.
63. Nikooi F. [Perfectionism and fear of others evaluation in explaining social phobia]. Journal of educational psychology studies 2010; 7(12): 93-112. (Persian)
64. Levinson CA, Rodebaugh TL, Shumaker EA, Menatti AR, Weeks JW, White EK, et al. Perception matters for clinical perfectionism and social anxiety. J Anxiety Disord 2015; 29: 61-71.
65. Yap K, Gibbs AL, Francis AJ, Schuster SE. Testing the bivalent fear of evaluation model of social anxiety: The relationship between fear of positive evaluation, social anxiety, and perfectionism. Cognit Behav Ther 2016; 45(2): 136-49.
66. Newby J, Pitura VA, Penney AM, Klein RG, Flett GL, Hewitt PL. Neuroticism and perfectionism as predictors of social anxiety. Pers Individ Dif 2017; 106: 263-7.
67. Antony MM, Purdon CL, Huta V, Swinson RP. Dimensions of perfectionism across the anxiety disorders. Behav Res Ther 1998; 36(12): 1143-54.
68. Juster HR, Heimberg RG, Frost RO, Holt CS, Mattia JI, Faccenda K. Social phobia and perfectionism. Pers Individ Dif 1996; 21(3): 403-10.
69. Klemanski DH, Curtiss J, McLaughlin KA, Nolen-Hoeksema S. Emotion regulation and the transdiagnostic role of repetitive negative thinking in adolescents with social anxiety and depression. Cogn Ther Res 2017; 41(2): 206-19.
70. Spokas M, Luterek JA, Heimberg RG. Social anxiety and emotional suppression: the mediating role of beliefs. J Behav Ther Exp Psychiatry 2009; 40(2): 283-91.
71. Dryman MT, Heimberg RG. Emotion regulation in social anxiety and depression: a systematic review of expressive suppression and cognitive reappraisal. Clin Psychol Rev 2018; 65: 17-42.
72. Ranta K, La Greca AM, Kaltiala-Heino R, Marttunen M. Social phobia and educational and interpersonal impairments in adolescence: A prospective study. Child Psychiatr Hum Dev 2016; 47(4): 665-77.
73. Stangier U, Esser F, Leber S, Risch AK, Heidenreich T. Interpersonal problems in social phobia versus unipolar depression. Depress Anxiety 2006; 23(7): 418-21.
74. Romano M, Moscovitch DA, Ma R, Huppert JD. Social problem solving in social anxiety disorder. J Anxiety Disord 2019; 68: 102152.
75. Cook LC. The infuence of parent factors on child perfectionism: A cross-sectional study. Ph.D. Dissertation. Las Vegas: University of Nevada, 2012.
76. Lozano LM, Valor-Segura I, Lozano L. Could a perfectionism context produce unhappy children? Personality and Individual Differences 2015; 80: 12-17.
77. Azizi K, Besharat MA. The relationship between parental perfectionism and parenting styles. Procedia Soc Behav Sci 2011; 15(Suppl C): 1484-7.
78. Madjar N, Voltsis M, Weinstock MP. The roles of perceived parental expectation and criticism in adolescents' multidimensional perfectionism and achievement goals. Educ Psychol 2013; 35(6): 765-78.
79. Choi Ju Y, Suh Kyung H. [Ambivalence over emotional expressiveness and interpersonal anxiety]. Korean journal of health psychology 2015; 20(1): 175-91. (Korean)
80. HopfingerL, Berking M, Bockting CL, Ebert DD. Emotion regulation mediates the effect of childhood trauma on depression. J Affect Disord 2016; 198: 189-97.
81. Huh HJ, Kim SY, Yu JJ, Chae JH. Childhood trauma and adult interpersonal relationship problems in patients with depression and anxiety disorders. Ann Gen Psychiatry 2014; 13: 26.
82. Thanh Dang CS. Endorsing the model minority myth: A fine line between social support, parental perfectionism and depression among Asian college students. Dissertation. Ohio: The Ohio State University, 2013.
83. Kelly AC, Dupasquier J. Social safeness mediates the relationship between recalled parental warmth and the capacity for self-compassion and receiving compassion. Pers Individ Diff 2016; 89: 157-61.
84. Craske MG. Transdiagnostic treatment for anxiety and depression. Depress Anxiety 2012; 29(9): 749-53.
85. Farchione TJ, Fairholme CP, Ellard KK, Boisseau CL, Thompson-Hollands J, Carl JR, et al. Unified protocol for transdiagnostic treatment of emotional disorders: a randomized controlled trial. Behav Ther 2012; 43(3): 666-78.
86. McEvoy PM, Nathan P, Norton PJ. Efficacy of transdiagnostic treatments: A review of published outcome studies and future research directions. J Cogn Psychother 2009; 23(1): 20-33.
87. Lynch TR, Hempel RJ, Whalley B, Byford S, Chamba R, Clarke P, et al. Refractory depression - mechanisms and efficacy of radically open dialectical behaviour therapy (RefraMED): Findings of a randomised trial on benefits and harms. Br J Psychiatry 2020; 216(4): 204-12.