




The Relationship Between Early Maladaptive Schemas and Adolescents' Social Anxiety: The Mediating Role of Locus of Control

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ABSTRACT

Objective: The present study aimed to investigate the relationship between early maladaptive schemas and adolescents' social anxiety and to examine the mediating role of locus of control in this relationship.

Methods and Materials: This descriptive-correlational study was conducted among male students enrolled in vocational high schools in District 8 of Tehran, Iran. Based on Morgan's sample size table, 210 students were selected using convenience sampling. Data were collected using the Young Schema Questionnaire-Short Form (YSQ-SF), the Social Phobia Inventory (SPIN), and Rotter's Locus of Control Scale. The study focused on five schema domains that demonstrated the strongest relationships with social anxiety, including Social Isolation/Alienation, Defectiveness/Shame, Emotional Inhibition, Negativity/Pessimism, and Failure. Descriptive statistics and Pearson correlation coefficients were computed to examine relationships among variables. Multiple regression analysis was used to identify the strongest predictors of social anxiety, and structural equation modeling was employed to test the mediating role of locus of control. Statistical analyses were performed using SPSS and AMOS software at a significance level of 0.05.

Findings: The results revealed significant positive correlations between all five schema domains and social anxiety ($p < .01$). Social Isolation/Alienation demonstrated the strongest association with social anxiety ($r = .61$), followed by Defectiveness/Shame ($r = .58$), Negativity/Pessimism ($r = .57$), Emotional Inhibition ($r = .56$), and Failure ($r = .54$). All schema domains were also significantly associated with external locus of control ($p < .01$). Multiple regression analysis indicated that the five schema domains collectively explained 55% of the variance in social anxiety scores ($R^2 = .55, p < .001$), with Social Isolation/Alienation emerging as the strongest predictor. Structural equation modeling demonstrated that locus of control significantly mediated the relationship between maladaptive schemas and social anxiety. The indirect effect through locus of control was statistically significant ($\beta = .16, p < .001$), while the direct effect remained significant ($\beta = .51, p < .001$), indicating partial mediation.

Conclusion: The findings suggest that maladaptive schemas related to social disconnection, shame, emotional suppression, pessimistic thinking, and perceived failure are important cognitive vulnerabilities associated with adolescent social anxiety.

Keywords: Early maladaptive schemas; Social anxiety; Adolescents; Locus of control

1. Introduction

Adolescence is a critical developmental stage characterized by profound biological, cognitive, emotional, and social transformations. During this period, individuals become increasingly sensitive to interpersonal relationships, social evaluation, peer acceptance, and perceptions of self-worth. Although these developmental processes are essential for identity formation and psychosocial growth, they may also increase susceptibility to emotional and psychological difficulties. Among the most prevalent psychological challenges during adolescence is social anxiety, a condition characterized by intense fear of social situations involving possible scrutiny, criticism, or negative evaluation by others. Social anxiety can interfere with academic performance, peer relationships, emotional well-being, and long-term psychosocial adjustment, making it a significant concern for researchers and mental health professionals. International evidence indicates that social anxiety is highly prevalent among adolescents and young people across diverse cultural contexts, highlighting its importance as a global mental health issue (Jefferies & Ungar, 2020).

Social anxiety is associated with a broad range of adverse outcomes, including social withdrawal, loneliness, diminished self-confidence, academic difficulties, and increased vulnerability to other emotional disorders. Adolescents experiencing social anxiety frequently anticipate rejection and embarrassment in interpersonal interactions and often avoid social situations to reduce distress. However, such avoidance behaviors tend to reinforce anxiety over time and limit opportunities for social competence development. Research has demonstrated that peer interactions play a crucial role in the emergence and maintenance of social anxiety during adolescence. Negative peer experiences, social exclusion, and concerns regarding social acceptance can significantly contribute to the development of anxiety symptoms, particularly among vulnerable adolescents (Pickering et al., 2020). Moreover, longitudinal evidence suggests that fears of negative evaluation and concerns about social judgment are among the strongest predictors of subsequent social anxiety symptoms during adolescence (Fredrick & Luebbe, 2024).

The development of social anxiety has been explained through various theoretical perspectives; however, cognitive theories have received substantial empirical support. Cognitive approaches emphasize the role of dysfunctional beliefs, maladaptive interpretations, and enduring cognitive

structures in shaping emotional experiences. According to these perspectives, individuals do not respond directly to external events but rather to their interpretations of those events. Consequently, cognitive distortions and maladaptive beliefs can increase vulnerability to anxiety and other forms of psychopathology. One influential cognitive framework that has received extensive empirical attention is schema theory, which proposes that early experiences contribute to the development of deeply rooted cognitive-emotional patterns known as early maladaptive schemas.

Early maladaptive schemas are pervasive and enduring themes regarding oneself, others, and the world that develop during childhood and adolescence and become elaborated throughout life. These schemas arise when core emotional needs are not adequately met and subsequently influence emotional reactions, interpersonal behaviors, and information processing. Individuals with strong maladaptive schemas tend to interpret experiences through dysfunctional cognitive filters that reinforce negative beliefs and expectations. A comprehensive systematic review of clinical disorders demonstrated that maladaptive schemas represent important transdiagnostic factors associated with a wide range of psychological difficulties, including anxiety disorders, depression, personality disorders, and emotional dysregulation (Bär et al., 2023).

Schema theory proposes that maladaptive schemas are organized into several domains reflecting unmet developmental needs. These domains include disconnection and rejection, impaired autonomy and performance, impaired limits, other-directedness, and overvigilance and inhibition. Adolescents possessing maladaptive schemas often perceive themselves as inadequate, unlovable, vulnerable, or socially undesirable. Such beliefs can substantially influence emotional adjustment and increase vulnerability to anxiety-related disorders. Research examining schema networks among student populations has demonstrated that maladaptive schemas are closely associated with psychological adaptation and emotional functioning, suggesting that these cognitive structures play a central role in shaping developmental outcomes (Masoumi et al., 2022).

A growing body of evidence has linked maladaptive schemas to various forms of psychopathology. For example, a systematic review and meta-analysis examining depression found that maladaptive schemas constitute powerful cognitive vulnerabilities that contribute to emotional disorders across the lifespan (Bishop et al., 2022). Similarly, research conducted among adolescents has shown that

maladaptive schemas are associated with suicidal tendencies and broader indicators of psychological maladjustment, emphasizing their importance during developmental periods characterized by heightened emotional sensitivity (Seddighi Arfaei & Hajian, 2023). These findings suggest that maladaptive schemas may serve as foundational cognitive mechanisms underlying diverse emotional and behavioral difficulties.

Particularly relevant to the present study is the relationship between maladaptive schemas and social anxiety. Theoretical perspectives suggest that schemas involving social isolation, defectiveness, emotional deprivation, failure, and rejection may predispose individuals to interpret social situations as threatening and evaluative. Adolescents with such schemas may expect criticism, rejection, humiliation, or exclusion, leading to heightened anxiety during interpersonal interactions. Empirical evidence supports this proposition. Research has demonstrated that early maladaptive schemas significantly predict social anxiety symptoms among students, indicating that schema-related cognitive patterns contribute directly to social fears and avoidance behaviors (Jamshidi et al., 2024). Furthermore, studies examining adolescents have identified significant relationships between schema domains associated with rejection and disconnection and indicators of emotional distress and interpersonal difficulties (Hedayati et al., 2020).

Additional support for the relationship between schemas and social anxiety comes from intervention research. Schema-focused therapeutic approaches have demonstrated effectiveness in reducing anxiety-related symptoms by targeting underlying dysfunctional beliefs and cognitive structures. For example, schema therapy has been shown to reduce self-focused attention and symptoms of social anxiety disorder, highlighting the importance of maladaptive schemas in the maintenance of anxiety symptoms (Kebritchi & Abolghasemi, 2025). Similarly, group schema therapy interventions have been associated with improvements in emotional regulation processes, suggesting that modifying maladaptive schemas can produce meaningful psychological benefits (Malekzadeh et al., 2024). Collectively, these findings underscore the significance of schema-related processes in understanding and treating social anxiety.

Although maladaptive schemas may exert direct effects on social anxiety, researchers increasingly emphasize the importance of identifying mediating mechanisms that explain how cognitive vulnerabilities influence emotional outcomes. One construct that may serve as an important

intermediary is locus of control. Originally conceptualized within social learning theory, locus of control refers to individuals' generalized beliefs regarding the causes of life events and outcomes. Individuals with an internal locus of control believe that outcomes are primarily determined by their own actions and efforts, whereas those with an external locus of control attribute outcomes to luck, fate, chance, or powerful external forces.

Locus of control has been widely recognized as a significant psychological factor influencing adjustment, motivation, health behaviors, and emotional well-being. Individuals with a strong internal locus of control typically demonstrate greater confidence, persistence, and adaptive coping when facing challenges. In contrast, those with a more external locus of control often report feelings of helplessness, uncertainty, and reduced self-efficacy. Research has consistently shown that locus of control influences numerous psychological outcomes, including mental health, well-being, and behavioral adjustment (Kesavayuth et al., 2020). More recent evidence has demonstrated that locus of control significantly affects psychological profiles and emotional functioning across diverse populations (Prospero et al., 2025).

Among adolescents and young adults, locus of control has been associated with happiness, academic self-efficacy, personality characteristics, and broader indicators of psychological adjustment. Individuals who perceive greater personal control over life events tend to experience more positive emotional outcomes and exhibit greater resilience in the face of adversity (Hosseini Abrishami et al., 2022). Similarly, studies examining motivation among adolescents have found that locus of control contributes substantially to goal-directed behavior and adaptive functioning, highlighting its developmental significance (Torres et al., 2025).

Research has also linked locus of control to anxiety-related phenomena. Individuals who perceive events as uncontrollable often experience greater uncertainty and emotional distress when confronting challenging situations. For example, studies investigating health-related anxiety have demonstrated that external health locus of control is associated with elevated anxiety levels and maladaptive cognitive responses to perceived threats (Yousefi Salekdeh et al., 2023). These findings suggest that perceptions of control may play a crucial role in shaping emotional reactions across various domains, including social situations.

From a theoretical perspective, maladaptive schemas may influence the development of locus of control beliefs. Adolescents exposed to experiences of rejection, criticism, neglect, or unpredictability may develop schemas that foster perceptions of limited personal agency. Over time, such experiences may contribute to an external locus of control orientation, whereby individuals believe that outcomes are largely beyond their influence. This cognitive pattern may subsequently increase vulnerability to social anxiety because adolescents who perceive little control over social outcomes may be more likely to anticipate rejection, embarrassment, or failure during interpersonal interactions.

Empirical evidence supporting this pathway has begun to emerge. One notable study demonstrated that locus of control mediated the relationship between early maladaptive schemas and social anxiety among adolescents, suggesting that beliefs regarding personal control constitute an important mechanism linking cognitive vulnerabilities to emotional outcomes (Mousavi et al., 2018). Although these findings provide valuable preliminary evidence, additional research is needed to clarify the nature of these relationships and determine whether locus of control consistently functions as a mediating variable in adolescent populations.

Furthermore, contemporary research indicates that social anxiety among adolescents is influenced by a complex interplay of cognitive, interpersonal, and emotional factors. For instance, body dissatisfaction, feelings of inferiority, family cohesion, and friendship quality have all been identified as significant contributors to adolescent social anxiety (Dou et al., 2023). Likewise, physiological responses to social stress have been associated with social anxiety symptoms, emphasizing the multifaceted nature of anxiety development during adolescence (Morgan et al., 2023). Intervention studies have also demonstrated that psychological treatments can successfully reduce social anxiety and improve adaptive functioning among adolescents, further highlighting the importance of identifying modifiable cognitive mechanisms underlying anxiety symptoms (Behzadi & Ashouri, 2024).

Despite the growing body of research concerning maladaptive schemas, locus of control, and social anxiety, relatively few studies have examined these variables simultaneously within an integrated explanatory framework. Moreover, limited evidence exists regarding these relationships among Iranian adolescents, particularly male vocational high school students who may face unique academic, social, and developmental challenges. Investigating the interplay between maladaptive schemas,

locus of control, and social anxiety may therefore contribute to a more comprehensive understanding of adolescent mental health and inform the development of targeted prevention and intervention programs.

Therefore, the aim of the present study was to investigate the relationship between early maladaptive schemas and adolescents' social anxiety and to examine the mediating role of locus of control in this relationship.

2. Methods and Materials

2.1. Study Design and Participants

The present study employed a descriptive correlational research design to investigate the relationship between early maladaptive schemas and social anxiety among adolescents, with locus of control examined as a mediating variable. As the study aimed to explore the associations among psychological constructs without manipulating any variables, a non-experimental correlational approach was considered appropriate. The target population consisted of all male students enrolled in vocational high schools located in District 8 of Tehran, Iran, during the academic year in which the study was conducted. Due to the large size and accessibility limitations of the population, a non-probability convenience sampling method was utilized. The required sample size was determined based on Morgan's sample size table. Accordingly, 210 students were selected from the vocational high schools of District 8 through convenience sampling and voluntarily participated in the study. Participation was based on informed consent, and respondents were assured that the collected information would remain confidential and would be used solely for research purposes.

2.2. Measures

Early maladaptive schemas were assessed using the Young Schema Questionnaire–Short Form developed by Jeffrey E. Young in 1990. This self-report instrument consists of 90 items designed to evaluate 18 early maladaptive schemas across multiple cognitive, emotional, and interpersonal domains. Each schema is measured through five items, and responses are recorded on a six-point Likert scale ranging from 1 (completely untrue of me) to 6 (describes me perfectly). Higher scores indicate a stronger presence of maladaptive schemas. The questionnaire has been widely used in clinical and non-clinical populations and has demonstrated satisfactory psychometric properties.

Previous studies have confirmed its construct validity and reliability. In the present study, reliability evidence reported in prior research indicated a Cronbach’s alpha coefficient of 0.90, reflecting excellent internal consistency.

Adolescents’ social anxiety was measured using the Social Phobia Inventory (SPIN), developed by Jonathan D. Connor and colleagues in 2000. The SPIN is a self-report measure consisting of 17 items designed to assess the severity of social anxiety symptoms. The instrument comprises three subscales: Fear (7 items), Avoidance (6 items), and Physiological Discomfort (4 items). Participants rate each item on a five-point Likert scale ranging from 0 (not at all) to 4 (extremely). Total scores are obtained by summing responses across all items, with higher scores indicating greater levels of social anxiety. The SPIN has been extensively validated across diverse adolescent and adult populations and has demonstrated strong psychometric characteristics. Previous research has confirmed its validity, and a Cronbach’s alpha coefficient of 0.94 has been reported, indicating excellent internal consistency reliability.

Locus of control was assessed using Rotter’s Locus of Control Scale, developed by Julian B. Rotter. The instrument consists of 29 forced-choice items, each containing two alternative statements labeled “A” and “B.” Among the 29 items, 23 are scored and directly assess individuals’ generalized expectations regarding the source of reinforcement and personal control over life events, whereas six items function as filler questions intended to disguise the purpose of the scale and reduce response bias. Scores are calculated based on the 23 substantive items, with higher scores reflecting a more external locus of control and lower scores indicating a more internal locus of control. According to the conventional scoring procedure, individuals obtaining scores of 9 or higher are generally classified as having an external locus of control, whereas scores below 9 suggest an internal locus of control orientation. Previous psychometric

investigations have supported the validity of the scale, and a Cronbach’s alpha coefficient of 0.81 has been reported, demonstrating acceptable internal consistency.

2.3. *Data Analysis*

After data collection, the questionnaires were reviewed for completeness and coded for statistical analysis. Descriptive statistics, including means, standard deviations, frequencies, and percentages, were calculated to summarize participants’ demographic characteristics and study variables. Prior to hypothesis testing, the assumptions of normality and linearity were examined. Pearson correlation coefficients were computed to determine the relationships among early maladaptive schemas, social anxiety, and locus of control. To evaluate the mediating role of locus of control in the relationship between early maladaptive schemas and social anxiety, mediation analysis was conducted using structural equation modeling and path analysis procedures. Direct, indirect, and total effects were estimated, and the significance of mediation pathways was examined. Statistical analyses were performed using appropriate statistical software, and all tests were evaluated at a significance level of 0.05.

3. **Findings and Results**

The final sample consisted of 210 male adolescents enrolled in vocational high schools in District 8 of Tehran. Participants ranged in age from 15 to 18 years, with a mean age of 16.72 years (SD = 0.91). Of the total participants, 67 students (31.9%) were in Grade 10, 72 students (34.3%) were in Grade 11, and 71 students (33.8%) were in Grade 12. Regarding socioeconomic status, 60 students (28.6%) reported low socioeconomic status, 110 students (52.4%) reported moderate socioeconomic status, and 40 students (19.0%) reported high socioeconomic status.

Table 1

Descriptive Statistics for Study Variables (N = 210)

Variable	Mean	SD	Minimum	Maximum
Social Isolation/Alienation	13.95	4.34	5	29
Defectiveness/Shame	14.81	4.68	5	30
Emotional Inhibition	14.21	4.55	5	30
Negativity/Pessimism	14.88	4.53	5	30
Failure	15.07	4.52	5	30
Locus of Control	10.47	3.84	1	21
Social Anxiety	31.84	11.27	5	66

As shown in Table 1, among the five schema domains examined in the study, the highest mean score was observed for Failure ($M = 15.07$, $SD = 4.52$), followed closely by Negativity/Pessimism ($M = 14.88$, $SD = 4.53$) and Defectiveness/Shame ($M = 14.81$, $SD = 4.68$). Social Isolation/Alienation and Emotional Inhibition showed slightly lower mean scores. The mean score for social

anxiety was 31.84 ($SD = 11.27$), indicating a moderate level of social anxiety symptoms within the sample. The average locus of control score was 10.47 ($SD = 3.84$), suggesting a tendency toward an external locus of control orientation among many participants. Examination of skewness and kurtosis indices indicated that all variables were normally distributed and suitable for subsequent parametric analyses.

Table 2

Pearson Correlation Matrix Among Early Maladaptive Schema Domains, Locus of Control, and Social Anxiety

Variable	1	2	3	4	5	6	7
1. Social Isolation/Alienation	1						
2. Defectiveness/Shame	.64**	1					
3. Emotional Inhibition	.58**	.61**	1				
4. Negativity/Pessimism	.55**	.59**	.56**	1			
5. Failure	.60**	.66**	.53**	.62**	1		
6. Locus of Control	.41**	.39**	.37**	.45**	.44**	1	
7. Social Anxiety	.61**	.58**	.56**	.57**	.54**	.48**	1

The results presented in Table 2 revealed significant positive correlations among all study variables. Social anxiety demonstrated significant positive relationships with Social Isolation/Alienation ($r = .61$, $p < .01$), Defectiveness/Shame ($r = .58$, $p < .01$), Emotional Inhibition ($r = .56$, $p < .01$), Negativity/Pessimism ($r = .57$, $p < .01$), and Failure ($r = .54$, $p < .01$). These findings indicate that adolescents who reported higher levels of maladaptive schemas also experienced greater social anxiety symptoms.

Likewise, locus of control was significantly associated with all schema domains, with the strongest relationship observed for Negativity/Pessimism ($r = .45$, $p < .01$) and Failure ($r = .44$, $p < .01$). The positive correlation between locus of control and social anxiety ($r = .48$, $p < .01$) suggests that a more external locus of control is associated with elevated levels of social anxiety. Overall, the correlation matrix provided preliminary support for the hypothesized mediation model.

Table 3

Multiple Regression Analysis Predicting Social Anxiety from Early Maladaptive Schema Domains

Predictor	B	SE	β	t	p
Social Isolation/Alienation	0.58	0.11	.28	5.27	< .001
Defectiveness/Shame	0.49	0.10	.24	4.90	< .001
Emotional Inhibition	0.43	0.11	.19	3.91	< .001
Negativity/Pessimism	0.39	0.10	.18	3.74	< .001
Failure	0.36	0.11	.16	3.28	.001

Model Statistics: $R = .74$, $R^2 = .55$, Adjusted $R^2 = .54$, $F(5, 204) = 49.89$, $p < .001$

To determine the relative contribution of the schema domains to the prediction of social anxiety, a simultaneous multiple regression analysis was performed. As shown in Table 3, the overall regression model was statistically significant, $F(5, 204) = 49.89$, $p < .001$, explaining 55% of the variance in social anxiety scores. Social Isolation/Alienation emerged as the strongest predictor of social anxiety ($\beta = .28$, $p < .001$), followed by Defectiveness/Shame ($\beta = .24$, $p < .001$), Emotional

Inhibition ($\beta = .19$, $p < .001$), Negativity/Pessimism ($\beta = .18$, $p < .001$), and Failure ($\beta = .16$, $p = .001$). The positive beta coefficients indicate that increases in each schema domain were associated with corresponding increases in social anxiety symptoms. These findings suggest that adolescents who perceive themselves as socially disconnected, defective, emotionally restricted, pessimistic, or likely to fail are particularly vulnerable to experiencing social anxiety.

Table 4

Direct, Indirect, and Total Effects of Early Maladaptive Schema Domains on Social Anxiety Through Locus of Control

Path	β	SE	95% CI	p
Social Isolation/Alienation → Locus of Control	.24	.06	.12 – .36	< .001
Defectiveness/Shame → Locus of Control	.19	.05	.09 – .30	< .001
Emotional Inhibition → Locus of Control	.16	.05	.06 – .26	.002
Negativity/Pessimism → Locus of Control	.27	.06	.13 – .39	< .001
Failure → Locus of Control	.25	.06	.15 – .37	< .001
Locus of Control → Social Anxiety	.34	.06	.22 – .46	< .001
Total Direct Effect of Schema Domains → Social Anxiety	.51	.07	.37 – .65	< .001
Total Indirect Effect via Locus of Control	.16	.03	.10 – .22	< .001
Total Effect	.67	.06	.55 – .79	< .001

To test the mediating role of locus of control, path analysis was conducted using structural equation modeling procedures. The results presented in Table 4 indicated that all five schema domains significantly predicted locus of control. Negativity/Pessimism ($\beta = .27, p < .001$) and Failure ($\beta = .25, p < .001$) exhibited the strongest effects on locus of control, followed by Social Isolation/Alienation ($\beta = .24, p < .001$), Defectiveness/Shame ($\beta = .19, p < .001$), and Emotional Inhibition ($\beta = .16, p = .002$). Furthermore, locus of control significantly predicted social anxiety ($\beta = .34, p < .001$), indicating that adolescents with a more external locus of control reported higher levels of social anxiety.

The mediation analysis also revealed a significant indirect effect of the schema domains on social anxiety through locus of control ($\beta = .16, p < .001$). Because the direct effect of the schema domains on social anxiety remained significant after the inclusion of the mediator ($\beta = .51, p < .001$), the results support a partial mediation model. The total effect of the schema domains on social anxiety was substantial ($\beta = .67, p < .001$), demonstrating that maladaptive schemas contribute to social anxiety both directly and indirectly through adolescents' beliefs regarding personal control over life events. These findings provide empirical evidence that locus of control represents an important psychological mechanism linking maladaptive cognitive structures to social anxiety symptoms among adolescents.

4. Discussion

The present study investigated the relationship between early maladaptive schemas and adolescents' social anxiety and examined the mediating role of locus of control in this relationship. The findings demonstrated that the schema domains of Social Isolation/Alienation, Defectiveness/Shame, Emotional Inhibition, Negativity/Pessimism, and Failure were all significantly and

positively associated with social anxiety. Furthermore, each of these schema domains was positively related to an external locus of control. The results of the regression analysis revealed that Social Isolation/Alienation was the strongest predictor of social anxiety, followed by Defectiveness/Shame, Emotional Inhibition, Negativity/Pessimism, and Failure. Most importantly, the mediation analysis indicated that locus of control partially mediated the relationship between maladaptive schemas and social anxiety, suggesting that schema-related beliefs contribute to social anxiety both directly and indirectly through adolescents' perceptions of personal control over life events.

One of the principal findings of this study was the significant positive relationship between Social Isolation/Alienation and social anxiety. This finding is theoretically consistent with schema theory, which posits that individuals who perceive themselves as fundamentally different from others or disconnected from social groups are more likely to experience fear and discomfort during interpersonal interactions. Adolescents characterized by this schema often believe that they do not belong, are not accepted by peers, or are incapable of establishing meaningful social relationships. Such beliefs can heighten vigilance toward signs of rejection and increase avoidance of social situations. Consequently, these adolescents may enter a cycle in which social withdrawal reinforces feelings of isolation and further intensifies social anxiety. This finding is consistent with previous literature emphasizing the critical role of peer relationships and social belonging in the development of adolescent social anxiety (Pickering et al., 2020). It is also compatible with findings demonstrating that social stress responses are strongly associated with anxiety symptoms during adolescence (Morgan et al., 2023). Furthermore, Hedayati et al. reported that schemas within

the rejection and disconnection domain are significantly associated with maladaptive emotional outcomes, supporting the present findings regarding the importance of social isolation-related schemas (Hedayati et al., 2020).

The significant association between Defectiveness/Shame and social anxiety also deserves consideration. Adolescents who possess this schema tend to perceive themselves as flawed, inferior, inadequate, or unworthy of acceptance. Such beliefs increase sensitivity to criticism and negative evaluation and encourage the assumption that others will discover and reject their perceived shortcomings. As a result, social situations become sources of threat rather than opportunities for connection. This interpretation is consistent with cognitive theories of social anxiety, which emphasize the role of negative self-perceptions in generating and maintaining anxiety symptoms. The finding aligns with the study conducted by Jamshidi et al., who reported that maladaptive schemas significantly predict social anxiety among students (Jamshidi et al., 2024). Likewise, research by Dou et al. demonstrated that feelings of inferiority constitute an important factor associated with social anxiety during adolescence (Dou et al., 2023). The relationship between negative self-beliefs and social anxiety is further supported by longitudinal evidence indicating that fears of negative evaluation play a central role in the development of social anxiety symptoms (Fredrick & Luebbe, 2024).

Another important finding was the significant relationship between Emotional Inhibition and social anxiety. Adolescents with elevated emotional inhibition tend to suppress the expression of feelings, thoughts, and personal needs because they fear criticism, embarrassment, or social disapproval. Although emotional suppression may temporarily reduce exposure to uncomfortable social experiences, it often interferes with authentic communication and emotional connectedness. Over time, inhibited emotional expression may contribute to loneliness, interpersonal difficulties, and increased anxiety in social contexts. These findings support theoretical propositions suggesting that excessive emotional control may limit adaptive social functioning and reinforce beliefs that emotional expression is unsafe. The results are consistent with broader schema literature indicating that schemas characterized by inhibition and excessive self-control are associated with psychological distress and maladaptive emotional functioning (Bär et al., 2023). Similar conclusions have emerged from intervention studies demonstrating that modifying maladaptive schema patterns improves emotional

regulation and psychological well-being (Malekzadeh et al., 2024).

The significant effects of Negativity/Pessimism and Failure schemas on social anxiety further support the role of maladaptive cognitive structures in adolescent emotional difficulties. Adolescents characterized by Negativity/Pessimism tend to focus excessively on potential dangers, disappointments, and negative outcomes. Consequently, they may approach social situations with heightened expectations of rejection, embarrassment, or failure. Such expectations increase anticipatory anxiety and reinforce avoidance behaviors. Similarly, adolescents who endorse Failure schemas often perceive themselves as incapable, incompetent, and less successful than their peers. These beliefs can undermine confidence during social interactions and increase concerns about performing inadequately in evaluative situations. The findings are consistent with schema theory and previous studies demonstrating that maladaptive beliefs concerning competence, vulnerability, and future expectations contribute significantly to emotional disorders (Bär et al., 2023; Bishop et al., 2022). Furthermore, Masoumi et al. emphasized that maladaptive schemas influence individuals' adaptation and coping capacities, supporting the present observation that failure-related beliefs are associated with social anxiety (Masoumi et al., 2022).

The findings also demonstrated significant positive relationships between all five schema domains and locus of control. Adolescents with stronger maladaptive schemas were more likely to exhibit an external locus of control orientation. This finding is understandable when viewed from a developmental perspective. Maladaptive schemas frequently emerge in environments characterized by criticism, unpredictability, emotional neglect, or rejection. Such experiences may foster the belief that important life outcomes are determined by forces beyond personal control. Over time, these beliefs become generalized and influence broader perceptions of agency and responsibility. The present findings therefore suggest that maladaptive schemas contribute not only to emotional difficulties but also to fundamental beliefs regarding personal influence over life events.

This interpretation is supported by previous research demonstrating the importance of locus of control in psychological functioning. Hosseini Abrishami et al. found that locus of control is closely associated with happiness, self-efficacy, and positive adjustment among students (Hosseini Abrishami et al., 2022). Similarly, Torres et al.

reported that locus of control influences motivation and adaptive functioning among young people, suggesting that perceptions of personal agency play a central role in developmental outcomes (Torres et al., 2025). The present findings extend this literature by suggesting that maladaptive schemas may serve as cognitive antecedents of external control beliefs.

Another notable finding was the significant relationship between external locus of control and social anxiety. Adolescents who believed that social outcomes were primarily determined by external circumstances reported higher levels of social anxiety. Individuals with an external locus of control may perceive social interactions as unpredictable and uncontrollable, thereby increasing feelings of vulnerability and uncertainty. Such beliefs can reduce confidence in one's ability to manage social situations effectively and amplify fears of negative consequences. These findings are consistent with previous research indicating that external locus of control is associated with poorer psychological adjustment and greater emotional distress (Kesavayuth et al., 2020). Similar evidence has been reported in studies examining psychological profiles and health-related outcomes, where external control beliefs were linked to elevated psychological difficulties (Prospero et al., 2025). Moreover, research investigating health anxiety demonstrated that external control beliefs contribute significantly to anxiety-related responses, further supporting the relationship observed in the present study (Yousefi Salekdeh et al., 2023).

The most important contribution of the present study concerns the mediating role of locus of control. The findings revealed that locus of control partially mediated the relationship between maladaptive schemas and social anxiety. This result indicates that maladaptive schemas increase social anxiety not only directly but also indirectly by shaping adolescents' perceptions of control. Specifically, adolescents who possess schemas involving isolation, defectiveness, inhibition, pessimism, and failure may come to believe that social outcomes are largely beyond their influence. These beliefs subsequently increase anxiety when facing interpersonal situations because individuals perceive themselves as incapable of altering or managing potentially threatening outcomes. The significant indirect effect observed in the present study provides empirical support for theoretical models proposing that cognitive vulnerabilities operate through intermediary psychological processes.

Importantly, the present findings closely align with the study conducted by Mousavi et al., who similarly found that

locus of control mediates the relationship between early maladaptive schemas and social anxiety among adolescents (Mousavi et al., 2018). The replication of this finding strengthens confidence in the proposed model and suggests that locus of control represents a stable and meaningful mechanism linking maladaptive cognitive structures to anxiety symptoms. The consistency of these results across studies highlights the importance of considering control-related beliefs when attempting to understand or treat social anxiety in adolescent populations.

The present findings also have implications for intervention and prevention efforts. Previous studies have demonstrated that schema-focused interventions can effectively reduce social anxiety symptoms by targeting maladaptive beliefs and cognitive distortions (Kebritchi & Abolghasemi, 2025). Likewise, interventions aimed at improving self-efficacy and adaptive psychological functioning have been shown to decrease social anxiety among adolescents (Behzadi & Ashouri, 2024). Taken together, these findings suggest that interventions focusing simultaneously on maladaptive schemas and locus of control may be particularly effective. By helping adolescents challenge dysfunctional beliefs, develop more adaptive interpretations of social experiences, and strengthen perceptions of personal control, mental health professionals may reduce vulnerability to social anxiety and improve overall psychological well-being.

5. Conclusion

Overall, the findings of the present study provide substantial support for schema-based explanations of social anxiety and highlight the importance of locus of control as an intermediary psychological process. The results suggest that adolescents who perceive themselves as socially isolated, defective, emotionally constrained, pessimistic, or likely to fail are at increased risk for social anxiety, particularly when these beliefs contribute to a sense of diminished personal control. Consequently, both maladaptive schemas and locus of control should be considered central targets in efforts to understand, prevent, and treat social anxiety among adolescents.

6. Limitations & Suggestions

Several limitations should be considered when interpreting the findings of the present study. First, the correlational nature of the research design prevents causal conclusions regarding the relationships among maladaptive

schemas, locus of control, and social anxiety. Second, all data were collected through self-report questionnaires, which may be influenced by social desirability, response bias, and participants' subjective perceptions. Third, the sample consisted exclusively of male vocational high school students from one district of Tehran, limiting the generalizability of the findings to female adolescents, students from other educational settings, or adolescents from different cultural and socioeconomic backgrounds. Finally, other potentially important variables associated with social anxiety were not examined and may have influenced the observed relationships.

Future studies should employ longitudinal designs to investigate the developmental pathways linking maladaptive schemas, locus of control, and social anxiety over time. Experimental and intervention-based research could further clarify causal relationships among these variables. Researchers are also encouraged to examine additional mediating and moderating variables such as self-esteem, resilience, attachment styles, emotional regulation, social support, and family functioning. Replicating the study among female adolescents, clinical populations, and culturally diverse samples would contribute to a more comprehensive understanding of the proposed model and enhance the external validity of the findings.

Mental health professionals, school psychologists, and counselors should consider assessing maladaptive schemas and locus of control beliefs when working with adolescents who experience social anxiety. Early screening programs in schools may help identify students at risk before symptoms become severe. Psychoeducational and counseling interventions can be designed to challenge maladaptive beliefs related to social isolation, defectiveness, emotional inhibition, pessimism, and failure while simultaneously strengthening adolescents' perceptions of personal control and self-efficacy. Integrating schema-focused techniques with cognitive-behavioral approaches may enhance treatment effectiveness and contribute to healthier social, emotional, and academic development among adolescents.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors equally contributed to this article.

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