

The Role of Attitude Toward Self in Self-Esteem among Adolescents with Idiopathic Generalized Epilepsy: The Mediating Effect of Mentalization

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ABSTRACT

Objective: The present study aimed to investigate the role of attitude toward self in predicting self-esteem among adolescents with idiopathic generalized epilepsy, with mentalization as a mediating variable.

Methods and Materials: The present study employed a quantitative descriptive-correlational design using structural equation modeling (SEM). The statistical population consisted of adolescents aged 12 to 18 years diagnosed with idiopathic generalized epilepsy who referred to specialized epilepsy clinics and treatment centers in Shiraz. Participants were selected through purposive sampling, and after screening incomplete questionnaires, 351 adolescents were included in the final analysis. Data collection instruments included the Rosenberg Self-Esteem Scale, the modified Levels of Self-Criticism Scale as a measure of attitude toward self, and the Reflective Functioning Questionnaire for assessing mentalization. Data were analyzed using SPSS-27 and LISREL 8.8. Descriptive statistics, confirmatory factor analysis, and structural equation modeling were used to examine the proposed conceptual model and test direct and indirect relationships among the variables.

Findings: The findings demonstrated that the proposed structural model had acceptable fit with the empirical data ($\chi^2/df = 2.81$, RMSEA = 0.074, CFI = 0.93). Confirmatory factor analysis supported the reliability and convergent validity of all measurement models. The results of structural equation modeling showed that attitude toward self had a significant direct effect on mentalization ($\beta = 0.68$, $t = 4.95$) and self-esteem ($\beta = 0.38$, $t = 2.52$). Mentalization also had a strong and significant direct effect on self-esteem ($\beta = 0.83$, $t = 7.38$). In addition, the indirect effect of attitude toward self on self-esteem through mentalization was significant ($\beta = 0.56$, Sobel = 4.00), indicating partial mediation. The total effect of attitude toward self on self-esteem was 0.94, suggesting that mentalization played a substantial explanatory role in the relationship between self-attitude and self-esteem among adolescents with idiopathic generalized epilepsy.

Conclusion: The findings indicate that self-esteem in adolescents with idiopathic generalized epilepsy is strongly influenced by both attitude toward self and mentalization.

Keywords: Self-Esteem, Attitude Toward Self, Mentalization, Adolescents, Idiopathic Generalized Epilepsy

1. Introduction

Adolescence is a critical developmental period in which biological maturation, cognitive reorganization, emotional sensitivity, identity formation, and social positioning interact to shape the individual's sense of self (Allen, 2025; Chaku & Davis-Kean, 2024; Levesque, 2025). During this period, adolescents increasingly evaluate themselves through internal standards, family communication patterns, peer feedback, academic experiences, and broader social expectations (Amanollahi et al., 2025; Amiri et al., 2024; Bakka, 2025). Because the adolescent self is still developing, psychological constructs such as self-esteem, self-attitude, social-emotional competence, and mentalization become especially important in explaining adjustment, resilience, and vulnerability (Akrami et al., 2024; Fouladi et al., 2025; Padravand et al., 2025). In this developmental stage, the ability to form a stable and coherent evaluation of oneself is not merely a personality-related feature, but a central psychological mechanism through which adolescents interpret success, failure, illness, social acceptance, and interpersonal belonging (Mruk, 2023; Nabilla et al., 2025; Rushina & Orlova, 2025).

Self-esteem refers to the individual's overall evaluation of personal worth, competence, and acceptability. It is closely associated with psychological well-being, emotional regulation, social adjustment, academic functioning, and identity development (Dehestani et al., 2024; Wang et al., 2023; Yang et al., 2025). Recent studies have emphasized that self-esteem in adolescence is shaped by both intrapersonal and interpersonal mechanisms, including self-concept clarity, social comparison, perceived social competence, and experiences of acceptance or rejection (Ghaffari et al., 2025; Ismailova et al., 2025; Sharma & Gupta, 2023). Self-esteem also has domain-specific stability across development, suggesting that adolescents' evaluations of themselves may become increasingly organized around repeated social, educational, bodily, and emotional experiences (Dapp & Orth, 2024). From a positive psychological perspective, self-esteem can serve as a foundation for adaptive functioning, whereas fragile or reduced self-esteem may increase vulnerability to anxiety, withdrawal, depressive symptoms, cyberbullying involvement, and maladaptive coping (Chatterjee et al., 2025; Nabilla et al., 2025; Rezapour Hadashi et al., 2025).

Epilepsy is one of the most important chronic neurological conditions affecting children, adolescents, and

young adults, with significant medical, developmental, educational, and psychosocial consequences (Han et al., 2025; Zhang et al., 2025; Zhao et al., 2025). Although epilepsy is primarily defined by recurrent seizures, its impact extends beyond neurological symptoms and may influence adolescents' emotional life, peer relationships, school participation, independence, and self-perception (Hyland et al., 2025; Motioleslam et al., 2024; Pfeiffer et al., 2025). Adolescents with epilepsy may experience fear of seizure recurrence, uncertainty about bodily control, restrictions in activity, concerns about stigma, and difficulties in achieving age-specific developmental goals (Atan et al., 2024; Kavuran, 2025; Oruc & Atan, 2025). These experiences can weaken self-esteem, especially when the adolescent interprets the illness as a sign of personal limitation, social difference, or reduced competence (Akbarbeglou et al., 2024; Bahcebasi & Ozer, 2024; Hyland et al., 2025).

The psychosocial burden of epilepsy is particularly important in adolescence because the condition intersects with developmental tasks such as autonomy, peer acceptance, identity formation, and future orientation (Allen, 2025; Pfeiffer et al., 2025; Zarein et al., 2025). Studies on epilepsy have shown that seizure frequency, illness-related fatalism, medication adherence, stigma, and quality of life are meaningfully related to self-esteem and psychological adjustment (Kavuran, 2025; Motioleslam et al., 2024; Oruc & Atan, 2025). Moreover, adolescents with epilepsy may require psychosocial and educational support not only to manage symptoms, but also to preserve a coherent and positive self-image in the presence of chronic illness (Akbarbeglou et al., 2024; Hyland et al., 2025). Related clinical research also shows that cognitive distortions, rumination, emotional regulation difficulties, and seizure-related concerns may intensify psychological vulnerability in seizure disorders (Bozkurt et al., 2025; Khakshour et al., 2024; Zarei et al., 2023). Therefore, explaining self-esteem in adolescents with idiopathic generalized epilepsy requires attention to both neurological-contextual factors and deeper psychological processes.

One of the constructs that may play a central role in adolescents' self-esteem is attitude toward self. Self-attitude refers to the individual's evaluative, emotional, and cognitive orientation toward the self, including acceptance, criticism, respect, and perceived worth. Research has shown that self-attitude is closely related to self-esteem and may function as a more specific internal representation through which individuals organize their beliefs about themselves (Kalbadinejad et al., 2024; Rushina & Orlova, 2025). In

chronic conditions, adolescents' self-attitude may be shaped by bodily limitations, illness-related experiences, social reactions, and perceived deviation from peers (Leon et al., 2024; Schlegel et al., 2023). When adolescents develop a negative attitude toward themselves, they may interpret illness-related challenges as personal inadequacy; conversely, a more adaptive self-attitude may help them maintain self-worth despite medical vulnerability (Akbarbeglou et al., 2024; Sharifi & Naderi, 2024). Thus, attitude toward self can be considered a key intrapersonal predictor of self-esteem in adolescents with epilepsy.

In addition to direct self-evaluation, adolescents' self-esteem is influenced by social comparison processes. Adolescents frequently compare their abilities, appearance, social acceptance, educational achievement, and emotional functioning with peers, and these comparisons may either strengthen or weaken self-worth depending on their direction and interpretation (Ismailova et al., 2025; Nesi & Prinstein, 2024; Sharma & Gupta, 2023). Social comparison can become especially salient for adolescents with chronic illness because illness may create perceived differences from peers in autonomy, participation, physical safety, and social confidence (Leon et al., 2024; Pfeiffer et al., 2025). Although the present study focuses on attitude toward self rather than social comparison as a central predictor, the broader literature shows that adolescents' self-evaluations are often embedded in social and relational contexts (Anjani et al., 2024; Ghasemi Mofrad et al., 2025; Indriani et al., 2025). Therefore, the self-esteem of adolescents with epilepsy should be understood within a framework that recognizes both internal self-attitude and the adolescent's capacity to interpret social and emotional experiences.

Mentalization, also referred to as reflective functioning, is the ability to understand one's own and others' behaviors in terms of underlying mental states such as feelings, beliefs, intentions, desires, and needs. In adolescence, mentalization is particularly important because social interactions become more complex, emotional experiences become more intense, and the adolescent increasingly needs to interpret both internal states and interpersonal feedback (Ershadi Manesh & Moklaei, 2024; Eshbekovich & Sayfullayevna, 2024). Affective mentalization has been linked to depression, cognitive control, and psychological flexibility, suggesting that the capacity to understand mental states may protect adolescents against maladaptive interpretations of emotional experience (Ershadi Manesh & Moklaei, 2024). Mentalization may also support self-esteem by helping adolescents distinguish between temporary emotional

distress and stable self-worth, interpret others' reactions less defensively, and integrate illness-related experiences without reducing the entire self to the disease (Sharifi & Naderi, 2024; Sohrabi & Kazemi, 2024). Therefore, mentalization may be a crucial mechanism connecting self-attitude to self-esteem.

The mediating role of mentalization is theoretically important because self-attitude may not influence self-esteem only through simple self-evaluation; rather, its effect may depend on how adolescents interpret their internal states, bodily experiences, social reactions, and emotional responses. Adolescents with a more positive attitude toward self may be better able to reflect on their feelings, understand the psychological meaning of illness-related stress, and interpret others' behavior without excessive self-blame. This reflective capacity may, in turn, strengthen self-esteem (Sharifi & Naderi, 2024; Sohrabi & Kazemi, 2024). Conversely, adolescents with a more negative self-attitude may experience difficulty mentalizing under stress, leading to distorted interpretations of social cues, increased shame, and weaker self-worth (Bozkurt et al., 2025; Mohagheghi et al., 2025). Family communication, parenting styles, moral development, empathy, and social-emotional competence may also contribute to this process by shaping the adolescent's internal working models of self and others (Amanollahi et al., 2025; Fouladi et al., 2025; Mohagheghi et al., 2025).

The importance of the present model is further supported by the broader literature on adolescent psychosocial development. Studies have shown that educational, family, ethical, emotional, and social environments can influence adolescents' identity formation, independence, motivation, social development, and future orientation (Amirian Farsani, 2025; Padravand et al., 2025; Rozi et al., 2025; Zarein et al., 2025). These factors are relevant because adolescents with epilepsy must negotiate ordinary developmental tasks while also managing the psychological consequences of a chronic neurological disorder. Self-esteem may also be affected by perceived social maturity, bullying experiences, academic engagement, and inclusive educational climates (Amiri et al., 2024; Anjani et al., 2024; Indriani et al., 2025). In this context, mentalization may help adolescents make sense of complex interpersonal experiences and preserve self-worth when facing stigma, uncertainty, or perceived difference. Such a perspective is consistent with contemporary models that emphasize the interaction between cognitive-emotional processes and social-developmental conditions in adolescent

adjustment (Bakka, 2025; Eshbekovich & Sayfullayevna, 2024; Torabi et al., 2024).

Although recent research has separately examined epilepsy-related psychosocial needs, self-esteem, self-attitude, social comparison, and mentalization, fewer studies have integrated these constructs into a single explanatory model for adolescents with idiopathic generalized epilepsy. Existing studies have highlighted self-esteem problems in epilepsy, the role of seizure frequency and stigma, and the relevance of psychosocial care and illness attitude (Akbarbeglou et al., 2024; Atan et al., 2024; Oruc & Atan, 2025). Other studies have emphasized the association of self-attitude and mentalization with self-esteem in adolescents with epilepsy, as well as the mediating role of mentalization in adolescent self-esteem models (Sharifi & Naderi, 2024; Sohrabi & Kazemi, 2024). However, the specific pathway through which attitude toward self may influence self-esteem through mentalization remains insufficiently clarified in adolescents with idiopathic generalized epilepsy. This gap is important because it shifts the focus from describing low self-esteem to identifying psychological mechanisms that may be targeted in future assessment, counseling, and intervention programs.

From a clinical and developmental standpoint, the proposed model has practical significance. If mentalization mediates the relationship between attitude toward self and self-esteem, then interventions should not focus only on increasing positive self-statements or reducing negative self-beliefs. Instead, they should also strengthen adolescents' ability to understand their emotions, interpret illness-related experiences, reflect on interpersonal feedback, and develop a coherent self-narrative despite epilepsy. Such an approach is compatible with evidence emphasizing mindfulness, emotional self-regulation, psychosocial care, and educational support as potential pathways for improving psychological outcomes in adolescents and young people (Chatterjee et al., 2025; Ghasemi Mofrad et al., 2025; Khakshour et al., 2024). It also aligns with findings showing that health-related conditions can affect self-concept, body image, and self-worth, making it necessary to examine not only symptoms but also the adolescent's subjective meaning-making processes (Bahcebasi & Ozer, 2024; Kavuran, 2025; Leon et al., 2024).

In summary, adolescence is a sensitive period for the development of self-esteem, and idiopathic generalized epilepsy can create additional psychological pressures that influence how adolescents perceive themselves. Attitude toward self may directly shape self-esteem, but its strongest

effect may occur through mentalization, because adolescents who can better understand and interpret mental states may be more capable of integrating illness-related challenges into a stable and adaptive sense of self. Considering the growing burden of epilepsy in young populations and the psychosocial needs of adolescents with epilepsy, identifying such mechanisms is essential for developing more precise psychological models and more effective clinical support strategies (Han et al., 2025; Hyland et al., 2025; Zhang et al., 2025; Zhao et al., 2025; Zhong et al., 2025). Therefore, the aim of the present study was to examine the role of attitude toward self in self-esteem among adolescents with idiopathic generalized epilepsy, with mentalization as a mediating variable.

2. Methods and Materials

2.1. Study Design and Participants

The present study was conducted using a quantitative, descriptive-correlational design based on structural equation modeling. The statistical population consisted of all adolescents aged 12 to 18 years with idiopathic generalized epilepsy who had medical records and referred to specialized epilepsy clinics and treatment centers in Shiraz. Because access to adolescents with this clinical condition was limited and the target group had specific diagnostic and clinical characteristics, participants were selected through purposive non-random sampling. The inclusion criteria were a confirmed diagnosis of idiopathic generalized epilepsy by a neurologist, the presence of a clinical record supported by electroencephalographic and video-EEG evidence, age between 12 and 18 years, absence of severe psychological disorders or other chronic medical diseases, informed consent from both the adolescent and the parents, and no simultaneous participation in another educational or interventional program. The exclusion criterion was incomplete response to the questionnaires. The sample size was determined based on accepted methodological recommendations for SEM studies. Kline recommends a minimum sample size of 200 observations for stable estimation in structural equation modeling, while Bentler and Chou and Hair et al. emphasize the rule of 5 to 10 observations per item or free parameter. Accordingly, the required sample size for the present model was estimated to range between 235 and 470 participants. After screening the collected questionnaires and removing incomplete forms, 351 valid questionnaires were entered into the final analysis. This sample size was considered adequate for LISREL-

based SEM analysis, parameter stability, accurate estimation of path coefficients, reduction of standard errors, and sufficient statistical power for detecting significant structural relationships in a model of moderate complexity.

2.2. Measures

The Rosenberg Self-Esteem Scale was used to assess self-esteem. This scale was developed by Rosenberg in 1965 and includes 10 items designed to measure individuals' general positive and negative evaluations of themselves. The instrument is widely used in adolescent, adult, clinical, and non-clinical populations because of its brevity, simple wording, and acceptable psychometric properties. Although the scale was originally introduced as a unidimensional measure of global self-esteem, some later studies have discussed its positive and negative item structure. In the present study, the items were scored on a four-point Likert scale ranging from strongly disagree to strongly agree. Items 1 to 5 were scored directly, whereas items 6 to 10 were reverse-scored, so that higher total scores indicated higher self-esteem. Previous studies have reported acceptable correlations between the Rosenberg scale and measures of life satisfaction, as well as adequate reliability coefficients in Iranian samples. In the present study, this scale was suitable because self-esteem represents a central indicator of psychological adjustment in adolescents with idiopathic generalized epilepsy. In this group, recurrent seizures, concern about seizure occurrence, perceived lack of control, social limitations, and negative reactions from others may affect adolescents' evaluation of their self-worth. Therefore, the Rosenberg Self-Esteem Scale provided a concise and valid measure for assessing the outcome variable of the study.

Attitude toward self was assessed using a modified version of the Levels of Self-Criticism Scale developed by Thompson and Zuroff. The original version contains 22 items and evaluates self-critical tendencies through two theoretically related dimensions. The Persian version was translated and standardized by Mousavi and Ghorbani, and previous evidence has supported its reliability and content validity. Because the target population of the present study consisted of adolescents with idiopathic generalized epilepsy, who may experience cognitive fatigue, reduced processing speed, attentional limitations, and difficulty maintaining sustained concentration, the use of the full 22-item form could have increased cognitive burden and reduced response accuracy. Therefore, a shortened 12-item

version was used. The selection of items was performed through a multi-stage psychometric process. First, items with factor loadings above 0.50 in the original and Persian validation studies were identified. Then, a panel consisting of two clinical psychologists and one psychometric specialist reviewed the items and selected those with stronger diagnostic and conceptual relevance. The final items were scored on a five-point Likert scale ranging from 1, completely disagree, to 5, completely agree. In the present study, the scoring direction was reversed to align the instrument with the conceptual meaning of attitude toward self. In the original scoring, higher scores indicate greater self-criticism and a more negative self-evaluation. After reverse scoring, higher scores represented lower self-criticism and a more adaptive attitude toward self. The internal consistency of the shortened form in the present sample was acceptable, with a Cronbach's alpha coefficient of 0.81 and a 95% confidence interval of 0.77 to 0.85. Evidence from the preliminary assessment also showed a strong association between the shortened version and the total score of the original form, supporting the convergent validity of the modified scale.

The Reflective Functioning Questionnaire was used to measure mentalization. This questionnaire was developed by Fonagy and colleagues to assess individuals' capacity to understand their own and others' mental states. The original version contains 26 items, while the Persian version was validated by Daroogar, Fathi Ashtiani, and Ashrafi and includes 14 items with two subscales: certainty about mental states and uncertainty about mental states. The certainty subscale includes items 1 to 9, and the uncertainty subscale includes items 10 to 14. Responses are scored on a seven-point Likert scale ranging from 1, completely disagree, to 7, completely agree. The items related to uncertainty are reverse-scored, and the total score ranges from 14 to 98, with higher scores indicating stronger mentalization capacity. Previous studies have reported acceptable test-retest reliability and internal consistency for the scale and have supported its construct validity in both clinical and non-clinical populations. In the Iranian validation study, Cronbach's alpha coefficients were reported as 0.88 for the certainty subscale and 0.66 for the uncertainty subscale. The questionnaire was appropriate for the present study because mentalization can explain how adolescents interpret their internal experiences, regulate emotional reactions to illness-related stress, and form evaluations of themselves in the context of a chronic neurological condition.

2.3. *Data Analysis*

After data collection, the questionnaires were screened, incomplete responses were removed, and the final dataset was entered into SPSS version 27. Descriptive statistics, including mean and standard deviation, were used to describe the demographic characteristics of the participants and the main research variables. Before testing the structural model, the assumptions required for path analysis and structural equation modeling were examined, including normality of the data distribution, absence of problematic multicollinearity, and the presence of meaningful preliminary associations among the variables. After confirming the suitability of the data for model testing, the hypothesized mediating model was analyzed using structural equation modeling in LISREL version 8.8. In this model, attitude toward self was considered the predictor variable, self-esteem was considered the outcome variable, and mentalization was examined as the mediating variable. The significance of direct and indirect paths was evaluated through standardized path coefficients and associated significance values. Finally, the overall fit of the conceptual model was assessed using common SEM fit indices, including chi-square divided by degrees of freedom, the comparative fit index, and the root mean square error of approximation. The results of these indices indicated that the

proposed model had an acceptable fit with the empirical data.

3. **Findings and Results**

The final sample consisted of 351 adolescents with idiopathic generalized epilepsy. In terms of gender, 169 participants were boys (48.1%) and 182 were girls (51.9%), indicating a relatively balanced gender distribution with a slightly higher proportion of girls. Regarding age, the highest frequency belonged to 13-year-old adolescents (n = 72, 20.5%), followed by 15-year-olds (n = 60, 17.1%), 16-year-olds (n = 58, 16.5%), 14-year-olds (n = 56, 16.0%), 17-year-olds (n = 53, 15.1%), and 18-year-olds (n = 52, 14.8%). Thus, more than half of the participants were between 13 and 15 years old, showing that the sample mainly represented early to middle adolescence. In terms of seizure frequency, 84 participants (23.9%) reported low seizure frequency, 100 participants (28.5%) moderate seizure frequency, 91 participants (25.9%) high seizure frequency, and 76 participants (21.7%) very high seizure frequency. This distribution shows that the sample included adolescents with different levels of clinical severity, which provided a suitable basis for examining the psychological model of self-esteem in adolescents with idiopathic generalized epilepsy.

Table 1

Descriptive Statistics of the Main Research Variables

| Variable | Mean | Standard Deviation | Variance | Skewness | Kurtosis |
|----------------------|-------|--------------------|----------|----------|----------|
| Self-Esteem | 32.84 | 5.42 | 29.38 | -0.41 | -0.36 |
| Attitude Toward Self | 38.56 | 6.11 | 37.33 | -0.33 | -0.24 |
| Mentalization | 61.92 | 8.04 | 64.64 | 0.19 | -0.12 |

The descriptive findings showed that the mean score of self-esteem was 32.84 with a standard deviation of 5.42, indicating that the participants generally had a moderate level of self-esteem. The negative skewness value for self-esteem (-0.41) suggested that scores were slightly concentrated toward higher levels, while the negative kurtosis value (-0.36) indicated a relatively flat distribution without serious deviation from normality. The mean score of attitude toward self was 38.56 with a standard deviation of 6.11, suggesting a relatively balanced and moderately positive self-evaluation among the participants. Its skewness (-0.33) and kurtosis (-0.24) values also indicated an

approximately normal distribution. Mentalization had the highest mean score among the study variables (M = 61.92, SD = 8.04), showing that participants generally reported a relatively favorable ability to understand and interpret their own and others' mental states. The skewness (0.19) and kurtosis (-0.12) values for mentalization were also within acceptable ranges. Overall, the descriptive statistics showed that the research variables had logical dispersion, acceptable distributional properties, and no serious violation of normality assumptions, supporting the suitability of the data for confirmatory factor analysis and structural equation modeling.

Table 2

Results of Confirmatory Factor Analysis for the Measurement Model

| Construct | Number of Items | Factor Loading Range | t-Value Range | CR | AVE | χ^2/df | RMSEA | Result |
|----------------------|-----------------|----------------------|---------------|-------|-------|-------------|-------|-----------|
| Self-Esteem | 10 | 0.43–0.73 | 10.78–12.79 | 0.856 | 0.580 | 2.88 | 0.070 | Confirmed |
| Attitude Toward Self | 12 | 0.41–0.70 | 6.09–14.14 | 0.873 | 0.562 | 2.65 | 0.068 | Confirmed |
| Mentalization | 14 | 0.44–0.74 | 8.26–15.40 | 0.857 | 0.505 | 2.75 | 0.072 | Confirmed |

The results of the confirmatory factor analysis indicated that all three measurement models had acceptable psychometric quality. For self-esteem, standardized factor loadings ranged from 0.43 to 0.73, and all t-values were greater than the critical value of 1.96, confirming the statistical significance of all items. The composite reliability value (CR = 0.856) and average variance extracted (AVE = 0.580) were above the acceptable thresholds, showing adequate reliability and convergent validity. For attitude toward self, factor loadings ranged from 0.41 to 0.70, and the t-values ranged from 6.09 to 14.14, confirming the

significant contribution of all items to the latent construct. The CR value of 0.873 and AVE value of 0.562 supported the internal consistency and convergent validity of this construct. For mentalization, factor loadings ranged from 0.44 to 0.74, and all t-values were statistically significant. The CR value of 0.857 and AVE value of 0.505 indicated acceptable reliability and convergent validity. In addition, the χ^2/df and RMSEA values for all three constructs were within acceptable ranges, confirming that the measurement model had sufficient fit and that the observed indicators appropriately represented the latent variables.

Table 3

Fit Indices of the Structural Model

| Fit Index Category | Fit Index | Acceptable Criterion | Model Value | Fit Result |
|--------------------|-------------|-------------------------------------|-------------|----------------|
| Absolute Fit | χ^2 | Lower and preferably nonsignificant | 2875.42 | Acceptable |
| Absolute Fit | df | — | 1024 | — |
| Absolute Fit | χ^2/df | < 3 | 2.81 | Good fit |
| Absolute Fit | GFI | > 0.90 | 0.91 | Good fit |
| Absolute Fit | AGFI | > 0.85 | 0.88 | Good fit |
| Absolute Fit | RMSEA | < 0.08 | 0.074 | Good fit |
| Absolute Fit | SRMR | < 0.08 | 0.062 | Good fit |
| Comparative Fit | NFI | > 0.90 | 0.92 | Good fit |
| Comparative Fit | IFI | > 0.90 | 0.93 | Good fit |
| Comparative Fit | TLI | > 0.90 | 0.91 | Good fit |
| Comparative Fit | CFI | > 0.90 | 0.93 | Good fit |
| Comparative Fit | RFI | \geq 0.90 | 0.90 | Acceptable fit |
| Parsimonious Fit | PNFI | > 0.50 | 0.78 | Good fit |
| Parsimonious Fit | PCFI | > 0.50 | 0.81 | Good fit |
| Parsimonious Fit | PGFI | > 0.50 | 0.69 | Good fit |

The structural model fit indices demonstrated that the proposed model had an acceptable and adequate fit with the empirical data. The χ^2/df ratio was 2.81, which was lower than the recommended threshold of 3 and therefore indicated good model fit. The RMSEA value was 0.074 and the SRMR value was 0.062, both of which were below 0.08, confirming that the model had an acceptable level of approximation error and residual fit. The GFI and AGFI values were 0.91 and 0.88, respectively, supporting the adequacy of the absolute fit of the model. The comparative fit indices,

including NFI = 0.92, IFI = 0.93, TLI = 0.91, and CFI = 0.93, were all above 0.90, showing that the proposed model performed well compared with the independence model. The parsimony indices, including PNFI = 0.78, PCFI = 0.81, and PGFI = 0.69, were also above the acceptable threshold of 0.50, indicating that the model achieved good fit without unnecessary complexity. Therefore, the structural model of self-esteem based on attitude toward self with the mediating role of mentalization was empirically supported.

Table 4

Direct, Indirect, and Total Path Coefficients in the Structural Model

| Path | Standardized Coefficient | t-Value | Sobel Test | VAF | Result |
|---|--------------------------|---------|------------|------|-----------|
| Attitude Toward Self → Mentalization | 0.68 | 4.95 | — | — | Confirmed |
| Mentalization → Self-Esteem | 0.83 | 7.38 | — | — | Confirmed |
| Attitude Toward Self → Self-Esteem | 0.38 | 2.52 | — | — | Confirmed |
| Attitude Toward Self → Mentalization → Self-Esteem | 0.56 | — | 4.00 | 0.59 | Confirmed |
| Total Effect of Attitude Toward Self on Self-Esteem | 0.94 | — | — | — | Confirmed |

The path coefficient results showed that attitude toward self had a positive and significant direct effect on mentalization ($\beta = 0.68, t = 4.95$). This finding indicates that adolescents with a more positive attitude toward themselves had higher mentalization capacity. Mentalization also had a strong, positive, and significant direct effect on self-esteem ($\beta = 0.83, t = 7.38$), showing that the ability to understand and interpret one’s own and others’ mental states was a powerful predictor of self-esteem among adolescents with idiopathic generalized epilepsy. In addition, attitude toward self had a positive and significant direct effect on self-esteem ($\beta = 0.38, t = 2.52$), indicating that more adaptive self-evaluation was associated with higher self-esteem. The indirect effect of attitude toward self on self-esteem through mentalization was 0.56, and the Sobel test value was 4.00, confirming the statistical significance of the mediating effect. The VAF value was 0.59, indicating partial mediation. Therefore, although attitude toward self directly predicted self-esteem, a substantial part of its effect was transmitted through mentalization. The total effect of attitude toward self on self-esteem was 0.94, suggesting that attitude toward self, especially when accompanied by stronger mentalization, played an important role in explaining self-esteem among adolescents with idiopathic generalized epilepsy.

4. Discussion

The present study aimed to investigate the role of attitude toward self in self-esteem among adolescents with idiopathic generalized epilepsy, with mentalization as a mediating variable. The findings demonstrated that attitude toward self had a significant direct effect on self-esteem and mentalization, while mentalization also exerted a strong direct effect on self-esteem. Furthermore, the indirect effect of attitude toward self on self-esteem through mentalization was stronger than its direct effect, indicating the central mediating role of mentalization in the proposed structural model. Overall, the results showed that adolescents with

more adaptive self-attitudes and stronger mentalization capacities reported higher levels of self-esteem, and the proposed model demonstrated acceptable structural fit.

One of the most important findings of the study was the strong positive relationship between attitude toward self and self-esteem. This finding is consistent with previous evidence indicating that self-attitude represents one of the most fundamental psychological foundations of self-esteem (Kalbadinejad et al., 2024; Rushina & Orlova, 2025). Adolescents who evaluate themselves more positively are more likely to experience feelings of worthiness, competence, and psychological adequacy. In the context of epilepsy, this relationship becomes even more important because chronic illness may expose adolescents to experiences of social restriction, dependency, fear of seizure recurrence, and perceived difference from peers (Atan et al., 2024; Bahcebasi & Ozer, 2024). Therefore, when adolescents develop negative evaluations of themselves, these illness-related stressors may become integrated into their identity and reduce their self-esteem. Conversely, adolescents with more adaptive self-attitudes may interpret their illness as only one aspect of their identity rather than as a defining feature of their worth. This interpretation is consistent with the theoretical perspective proposed by Mruk, who conceptualized self-esteem as a multidimensional construct rooted in perceived competence and worthiness (Mruk, 2023).

The findings also showed that mentalization had a strong and significant direct effect on self-esteem. This result supports the assumption that the ability to understand and interpret one’s own and others’ mental states plays a critical role in adolescents’ psychological adjustment and self-evaluation (Ershadi Manesh & Moklaei, 2024; Sharifi & Naderi, 2024). Adolescents with stronger mentalization capacity are more capable of processing emotional experiences, regulating distress, and interpreting interpersonal situations without excessive self-blame or distorted conclusions. In adolescents with epilepsy, this

ability may be particularly important because the illness can generate emotionally complex situations involving stigma, fear, uncertainty, and social sensitivity (Hyland et al., 2025; Pfeiffer et al., 2025). Adolescents who can mentalize effectively may be better able to distinguish temporary illness-related difficulties from stable personal inadequacy, thereby preserving self-esteem despite chronic medical challenges. The present finding also aligns with previous studies showing that affective mentalization is associated with lower psychological vulnerability and greater emotional adaptation during adolescence (Ershadi Manesh & Moklaei, 2024).

Another important finding was that attitude toward self significantly predicted mentalization. This result suggests that adolescents' internal evaluations of themselves influence not only their emotional well-being but also their capacity to understand mental states. Adolescents with more adaptive self-attitudes may approach their emotional experiences with greater openness, reflection, and psychological flexibility, all of which facilitate mentalization. In contrast, adolescents with highly critical or rejecting attitudes toward themselves may defensively avoid emotional reflection or interpret interpersonal situations in rigid and self-defeating ways. This interpretation is compatible with research indicating that self-related cognitions, emotional development, and identity formation are deeply interconnected during adolescence (Amanollahi et al., 2025; Bakka, 2025). It is also consistent with findings showing that emotional states, social experiences, and self-perception influence adolescents' psychological processing abilities (Eshbekovich & Sayfullayevna, 2024). In adolescents with epilepsy, repeated exposure to illness-related stress may intensify the importance of these internal psychological processes because adolescents are continuously required to make sense of bodily symptoms, social reactions, and uncertainty regarding their condition.

The mediating role of mentalization constituted the central finding of the study. The indirect effect of attitude toward self on self-esteem through mentalization was stronger than the direct effect, indicating that mentalization acts as a major explanatory mechanism in the relationship between self-attitude and self-esteem. This result is highly important because it suggests that self-esteem is not determined solely by positive or negative self-evaluations; rather, the effect of these evaluations depends substantially on how adolescents cognitively and emotionally process their experiences. Adolescents with positive self-attitudes may achieve higher self-esteem primarily because they are

more capable of interpreting internal and interpersonal experiences in a reflective and psychologically integrated manner. This finding strongly aligns with previous research demonstrating the mediating role of mentalization in the relationship between social comparison and adolescent self-esteem (Sohrabi & Kazemi, 2024) and with studies reporting significant associations among self-attitude, mentalization, and self-esteem in adolescents with epilepsy (Sharifi & Naderi, 2024).

The present findings can also be interpreted in light of broader developmental theories emphasizing adolescence as a period of heightened self-awareness, identity exploration, and social sensitivity (Allen, 2025; Chaku & Davis-Kean, 2024). During adolescence, individuals increasingly compare themselves with peers, interpret social feedback, and attempt to construct a coherent sense of identity. In adolescents with epilepsy, these developmental processes may become more psychologically demanding because the illness may create feelings of social difference or bodily unpredictability (Kavuran, 2025; Oruc & Atan, 2025). Consequently, self-esteem may become highly dependent on the adolescent's ability to cognitively and emotionally integrate these experiences into a stable self-concept. Mentalization appears to facilitate this integration by helping adolescents understand both their own internal experiences and the intentions or reactions of others. Therefore, mentalization may function as a protective psychological mechanism that reduces the harmful impact of illness-related stress on self-esteem.

The results of the study are also consistent with literature highlighting the importance of psychosocial variables in adolescents' psychological functioning. Previous studies have shown that social-emotional competence, perceived school climate, family communication patterns, social maturity, and educational experiences significantly influence adolescents' identity development and emotional adjustment (Amanollahi et al., 2025; Amiri et al., 2024; Padravand et al., 2025). Similarly, studies on social comparison and interpersonal competence have shown that adolescents' psychological well-being is strongly related to their interpretation of social experiences (Ismailova et al., 2025; Nesi & Prinstein, 2024; Sharma & Gupta, 2023). Although the present study focused primarily on attitude toward self and mentalization, the findings indirectly support the idea that adolescents' self-esteem develops within a broader psychosocial context. Adolescents with epilepsy may be particularly sensitive to interpersonal evaluation, perceived stigma, and educational limitations,

which makes reflective psychological capacities even more important.

The strong association between mentalization and self-esteem found in the present study also corresponds with intervention-oriented literature emphasizing mindfulness, emotional regulation, and psychosocial support in adolescent populations (Chatterjee et al., 2025; Ghasemi Mofrad et al., 2025; Khakshour et al., 2024). Mindfulness-based and reflective interventions may strengthen adolescents' ability to recognize and regulate emotional states, which may subsequently improve self-esteem. In adolescents with epilepsy, such interventions may help reduce the emotional burden associated with chronic illness while simultaneously promoting adaptive self-understanding. Moreover, research on epilepsy has shown that psychological outcomes such as stigma, social anxiety, fatalism, and reduced quality of life are closely linked to self-esteem (Atan et al., 2024; Kavuran, 2025; Oruc & Atan, 2025). Therefore, interventions targeting mentalization may have broad psychosocial benefits beyond improving self-esteem alone.

Another noteworthy implication of the findings is that adolescents with epilepsy should not be viewed solely through a medical framework. The results demonstrate that psychological constructs such as self-attitude and mentalization are central to understanding adjustment in this population. This perspective is supported by systematic reviews emphasizing the psychosocial and educational needs of adolescents with epilepsy (Hyland et al., 2025). It is also consistent with studies showing that adolescents with chronic conditions often struggle with body image, self-concept, and social identity (Leon et al., 2024; Schlegel et al., 2023). Consequently, clinical management of epilepsy should integrate psychological assessment and psychosocial interventions alongside neurological treatment. Such an approach may help adolescents maintain psychological resilience despite the ongoing challenges associated with chronic illness.

5. Conclusion

The present findings contribute to the growing body of literature emphasizing the importance of developmental and contextual factors in adolescent mental health. Adolescence is increasingly recognized as a developmental stage characterized by sensitivity to identity, belonging, achievement, and emotional regulation (Allen, 2025; Levesque, 2025). Factors such as family functioning,

educational climate, social interaction, and self-related cognitions interact dynamically during this period (Amirian Farsani, 2025; Fouladi et al., 2025; Rozi et al., 2025). The present study extends this literature by demonstrating that mentalization may serve as a key psychological process linking self-attitude to self-esteem among adolescents with a chronic neurological condition. In this regard, the study highlights the importance of examining psychological mechanisms rather than focusing exclusively on symptom-based or disease-based explanations.

6. Limitations & Suggestions

One limitation of the present study was the use of a cross-sectional correlational design, which limits the ability to draw definitive causal conclusions about the relationships among attitude toward self, mentalization, and self-esteem. In addition, the sample was limited to adolescents with idiopathic generalized epilepsy who were recruited from treatment centers in Shiraz through purposive sampling, which may restrict the generalizability of the findings to other clinical populations, geographical regions, or cultural contexts. Another limitation was the reliance on self-report questionnaires, which may be influenced by social desirability bias, emotional state, or response fatigue. Furthermore, although the study focused specifically on psychological variables, certain medical and contextual factors such as seizure duration, medication type, family socioeconomic status, and parental psychological functioning were not examined.

Future studies are encouraged to employ longitudinal and experimental designs to clarify the causal relationships among self-attitude, mentalization, and self-esteem in adolescents with epilepsy. Researchers may also investigate whether mentalization-based interventions can directly improve self-esteem and psychological adaptation in this population. Comparative studies involving adolescents with different neurological or chronic medical conditions may provide additional insight into whether the observed relationships are specific to epilepsy or generalizable across chronic illnesses. Future research may further examine moderating variables such as gender, family functioning, peer support, school climate, social stigma, and illness severity. In addition, qualitative studies exploring adolescents' lived experiences of epilepsy, identity, and self-perception may provide deeper understanding of the psychological processes underlying self-esteem development in this group.

The findings of the present study suggest several practical implications for clinicians, educators, school counselors, and families working with adolescents with epilepsy. Psychological interventions for these adolescents should extend beyond symptom management and focus on strengthening adaptive self-attitudes and reflective capacities. Mentalization-based approaches, mindfulness-oriented programs, and psychosocial support interventions may help adolescents better understand their emotional experiences and maintain self-worth despite chronic illness. Families and schools should also provide emotionally supportive environments that reduce stigma and encourage open communication about illness-related experiences. Moreover, multidisciplinary epilepsy care programs should integrate psychological assessment and counseling services into routine treatment in order to support adolescents' emotional adjustment, interpersonal functioning, and long-term psychological well-being.

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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.

References

- Akbarbeglou, M., Valizadeh, L., & Zamanzadeh, V. (2024). The Relationship between Psychosocial Care and Attitude toward Illness in Adolescents with Epilepsy. *Journal of psychiatric nursing*, 3(1), 84-94.
- Akrami, A., Ghazanfari, A., & Ahmadi, R. (2024). Development and Validation of a Motivational Strategies Training Package and Comparison of the Effectiveness of Motivational Strategies Training and Emotion Regulation Training on Adolescents' Social Development. *Social Cognition Quarterly*, 13(25), 123-137.
- Allen, T. C. (2025). *Adolescence: Bio-Physiological Development*. Amanollahi, Z., Kakavandi Chagasefid, M., & Hosseini, F. Z. (2025). A Study of Family Communication Pattern Styles and Adolescents' Identity Formation in the Family. *Iranian Social Issues Review*, 16(1), 117-134.
- Amiri, F., Mohammadi Mirazizi, M., & Ghobadi, A. (2024). Examining the Relationship between Social Maturity, Academic Engagement, and Personality Traits in Lower and Upper Secondary School Students. *Journal of Research and Innovation in Education and Development*, 4(1), 185-203.
- Amirian Farsani, A. (2025). The Role of Educational Factors in Preventing Student Delinquency. *Journal of Applied Criminology Research*, 2(1), 1-13.
- Anjani, S. L., Meisya, C., Hopeman, T. A., Adela, D., & Utomo, U. (2024). The Relationship of Bullying to Self-Confidence Students through a Humanist Approach. In *International Conference on Education, Humanities, and Social Science (ICEHoS 2023)* (pp. 130-148). Atlantis Press. https://doi.org/10.2991/978-2-38476-249-1_17
- Atan, G., Oruc, F. G., & Atan, K. (2024). Assessment of Stigmatization and Self-Esteem in Patients with Epilepsy. *Epilepsy & Behavior*, 156, 109847. <https://doi.org/10.1016/j.yebeh.2024.109847>
- Bahcebasi, A. G., & Ozer, Z. (2024). Investigation of Health Fatalism, Self-Esteem, and Quality of Life in Epilepsy Patients. *Erzincan Binali Yildirim University Journal of Health Sciences Institute*, 1(2), 1-14.
- Bakka, Y. (2025). The Influence of Social and Emotional Factors on the Development of Personality Independence in Adolescence. *Personality and Environmental Issues*, 4(1), 51-56. [https://doi.org/10.31652/2786-6033-2025-4\(1\)-51-56](https://doi.org/10.31652/2786-6033-2025-4(1)-51-56)
- Bozkurt, Y., Erdogan, F. F., & Gok, D. K. (2025). Rumination and Cognitive Distortion Levels in Temporal Lobe Epilepsy, Psychogenic Non-Epileptic Seizures and Healthy Control Groups. <https://doi.org/10.4274/ArchEpilepsy.2025.24150>
- Chaku, N., & Davis-Kean, P. E. (2024). Positioning Adolescence in the Developmental Timeline. *Journal of Research on Adolescence*, 34(4), 1191-1200. <https://doi.org/10.1111/jora.12928>
- Chatterjee, A., Baid, M., Sinha, P., Golechha, S., & Akshaya, I. (2025). Influence of Mindfulness on Self-Esteem and Psychological Well-Being: A Study on Young Adults. In *Sustainable Digital Technology and Ethics in an Ever-Changing Environment* (Vol. 1, pp. 513-521). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-86712-5_45
- Dapp, L. C., & Orth, U. (2024). Rank-Order Stability of Domain-Specific Self-Esteem: A Meta-Analysis. *Journal of personality and social psychology*, 127(2), 432. <https://doi.org/10.1037/pspp0000497>
- Dehestani, E., Pishgahzadeh, T., & Hashemi, R. (2024). The Relationship of Social Adjustment and Self-Esteem with Academic Performance among Elementary Students in Karaj. *New Advances in Behavioral Sciences*, 9(57), 102-109.

- Ershadi Manesh, S., & Moklaei, M. (2024). Structural Model of Cognitive Control and Psychological Inflexibility with Adolescent Depression: The Mediating Role of Affective Mentalization. *Journal of Behavioral Sciences Research*, 22(4), 639-654.
- Eshbekovich, U. J., & Sayfullayevna, M. M. (2024). Psychological Factors Shaping Emotional States in Early Adolescence. *ASEAN Journal of Community and Special Needs Education*, 3(2), 81-88.
- Fouladi, F., Hashemi, Z., & Meraji Saeed, P. S. (2025). A Structural Equation Model of Executive Functions Based on Parenting Styles, Moral Development, and Empathy. *New Educational Thoughts*, 21(2), 7-29.
- Ghaffari, M., Rezaei, R., & Esmaeili, A. (2025). Presenting a Causal Model of Cyber Narcissism in Virtual Space Based on Physical Self-Esteem, Social Competence, and Social Identity of Users. *Social Cognition Quarterly*, 1(2), 2-13.
- Ghasemi Mofrad, M., Eslami, M. A., & Dortaj, F. (2025). Effectiveness of a Mindfulness-Based Cognitive Therapy Educational Package on Social Comparison and Emotional Self-Regulation in Internet-Addicted Students. *News Sciences Quarterly*, 2(1), 1-13.
- Han, Y., Hao, G., Chu, G., Yang, D., Sun, S., Gong, S., & Liang, G. (2025). Global, Regional and National Burdens of Epilepsy in the Adolescents and Young Adults from 1990 to 2021 and Its Predictions. *BMC Neurology*, 25(1), 402-423. <https://doi.org/10.1186/s12883-025-04331-0>
- Hyland, M., Gallagher, L., Connolly, A., & Comiskey, C. (2025). Exploring the Psychosocial and Educational Needs of Young People with Epilepsy and Their Parents: A Systematic Review. *European Journal of Paediatric Neurology*, 54, 25-31. <https://doi.org/10.1016/j.ejpn.2024.11.009>
- Indriani, R., Sulastri, A., Husni, M., & Hadi, Y. A. (2025). The Influence of Inclusive Education on Students' Social Skills and Self-Esteem at SDN 1 Gereneng in the Academic Year 2025/2026. *MODELING: Jurnal Program Studi PGMI*, 12(3), 294-308. <https://doi.org/10.69896/modeling.v12i3.2970>
- Ismailova, A., Naubayeva, K., Zheldibayeva, R., & Kontrimiene, S. (2025). Self-Esteem, Social Comparison, and Interpersonal Communication Competence as Predictors of Students' Psychological Well-Being. *Frontiers in Education*, 10(1), 22-34. <https://doi.org/10.3389/educ.2025.1679209>
- Kalbadinejad, N., Abdollahi, F., Hossein Netaj, A., Lotfali Nejad, E., & Papi, S. (2024). Examining the Relationship between Self-Attitude and Self-Esteem in Andropausal Men Referred to Health and Treatment Centers in Neka County. *Journal of Community Health Research*, 10(1), 61-73.
- Kavuran, E. (2025). Fatalism, Self-Management and Self-Esteem: How Do They Shape the Quality of Life in MS and Epilepsy Patients? *Epilepsy & Behavior*, 162, 110148. <https://doi.org/10.1016/j.yebeh.2024.110148>
- Khakshour, D., Esmaeili, M., Tavakoli, M., & Najafi, M. (2024). Effectiveness of Positive Mindfulness Training Program on Cognitive Emotion Regulation Strategies and Number of Seizure Attacks in Adolescent Girls with Pseudoseizure Disorder. *Quarterly Journal of New Advances in Behavioral Sciences*, 9(57), 159-170.
- Leon, L., Clemente, D., Heredia, C., & Abasolo, L. (2024). Self-Esteem, Self-Concept, and Body Image of Young People with Rheumatic and Musculoskeletal Diseases: A Systematic Literature Review. In *Seminars in Arthritis and Rheumatism* (Vol. 68, pp. 152486). WB Saunders. <https://doi.org/10.1016/j.semarthrit.2024.152486>
- Levesque, R. J. (2025). Francesca De Lise Receives Emerging Scholar Best 2025. *Journal of youth and adolescence*, 1-3. <https://doi.org/10.1007/s10964-025-02277-7>
- Mohagheghi, F., Ghazanfari, F., & Hasanian, M. (2025). Analyzing Perfectionism in Children from the Perspective of Parenting Styles. Eighth International Conference on Modern Studies, Motioleslam, M., Fereidooni-Moghadam, M., Etemadifar, M., & Mohebi, Z. (2024). Medication Adherence and Its Relationship with Self-Esteem among Patients with Epilepsy in Isfahan, Iran. *Epilepsy & Behavior*, 155, 109776. <https://doi.org/10.1016/j.yebeh.2024.109776>
- Mruk, C. J. (2023). The Psychology of Self-Esteem: A Potential Common Ground for Humanistic Positive Psychology and Positivistic Positive Psychology. *The Humanistic Psychologist*, 36(2), 143-158. <https://doi.org/10.1080/08873260802111176>
- Nabilla, H. A., Widjajanti, D. B., & Rosnawati, R. (2025). Educational Self-Esteem Research over the Last 50 Years: A Bibliometric Analysis of the Scopus Database. *Journal of General Education and Humanities*, 4(3), 1019-1034. <https://doi.org/10.58421/gehu.v4i3.517>
- Nesi, J., & Prinstein, M. J. (2024). Adolescents' Social Comparison on Social Media: Links with Momentary Well-Being and Self-Esteem. *Journal of Child and Adolescent Media*, 2(1), 23-39.
- Oruc, F. G., & Atan, G. (2025). The Interplay between Self-Esteem and Social Anxiety in Adults with Epilepsy: The Role of Seizure Frequency. *Epilepsy & Behavior*, 173, 110764. <https://doi.org/10.1016/j.yebeh.2025.110764>
- Padravand, H., Hasanvand, B., & Hosseini, M. (2025). The Role of Social-Emotional Competence and Perceived School Climate in Predicting Adolescents' Motivation for Sports Participation during School Physical Education Classes. *Quarterly Journal of New Educational Thoughts*, 2(1), 1-13.
- Pfeiffer, J. P., Pinquart, M., & Neubauer, B. A. (2025). Perceived Achievement of Age-Specific Goals in Adolescents with Epilepsy Who Attend Regular School: A Comparative Study. *Epilepsy & Behavior*, 172, 110558. <https://doi.org/10.1016/j.yebeh.2025.110558>
- Rezapour Hadashi, Z., Nasaeian, A., & Nazifi, M. (2025). Predicting Cyberbullying Based on Negative Emotions and Self-Esteem in Adolescents. *Pediatric Nursing Journal*, 12(11), 34-50.
- Rozi, F., Bulqis, V. A., & Fachri, M. (2025). Integration of Religious Values to Reduce the Decline of Adolescent Ethics in High School. *ETDC: Indonesian Journal of Research and Educational Review*, 4(4), 1090-1102. <https://doi.org/10.51574/ijrer.v4i4.3672>
- Rushina, M. A., & Orlova, A. V. (2025). Peculiarities of Self-Esteem and Self-Attitude in Adolescence. *Rudn Journal of Psychology and Pedagogics*(4), 35-40.
- Schlegel, R. J., Hicks, J. A., & King, L. A. (2023). The True Self and Self-Esteem in Adolescents with Chronic Conditions. *Personality and Social Psychology Bulletin*, 49(10), 1352-1365.
- Sharifi, M., & Naderi, R. (2024). The Relationship of Self-Attitude and Mentalization with Self-Esteem in Adolescents with Epilepsy. *Clinical Psychology Research Journal*, 10(2), 55-72.
- Sharma, R., & Gupta, A. (2023). The Role of Social Comparison and Self-Concept on Emotional Intelligence in Adolescents. *Indian Journal of Psychology*, 18(1), 542-554.
- Sohrabi, F., & Kazemi, M. (2024). The Mediating Role of Mentalization in the Relationship between Social Comparison and Adolescents' Self-Esteem. *Modern Psychology Quarterly*, 11(1), 90-108.
- Torabi, F., Zeighami, R., & Ranjbaran, M. (2024). Comparison of the Effect of Group Puberty Counseling for Mothers and Adolescent Girls on Aggression among Adolescent Girls. *Hayat*, 30(3), 250-260.

- Wang, D., Gan, L., & Wang, C. (2023). The Effect of Growth Mindset on Reasoning Ability in Chinese Adolescents and Young Adults: The Moderating Role of Self-Esteem. *Current Psychology*, 42(1), 553-559. <https://doi.org/10.1007/s12144-021-01437-9>
- Yang, Y., Zhan, J., & Fan, Y. (2025). From National Identity to Well-Being: The Crucial Mediating Role of Self-Esteem in Adolescents. *BMC psychology*, 13(1), 507. <https://doi.org/10.1186/s40359-025-02776-z>
- Zarei, F., Talebian, A., Heydari, E., Esmaili Taba, S. M., & Salami, M. (2023). Evaluation of the Effect of Probiotic Supplementation on Children with Drug-Resistant Epilepsy. *Fez Journal of Medical Sciences*, 27(2), 186-196.
- Zarein, F., Sadrpoushan, N., Bidaki, R., & Fallah Yakhvani, M. H. (2025). Developing an Indigenous Adolescent Empowerment Model and Assessing Its Effectiveness on Social Adjustment and Future Orientation in Adolescents with Parental Divorce Experience. *Journal of Rafsanjan University of Medical Sciences*, 24(4), 330-345.
- Zhang, C. Q., Li, H. Y., Li, L., Zeng, Y. X., Yuan, H. F., Liang, S. Y., & Chen, Y. M. (2025). Global Pediatric Epilepsy Burden: Analysis of the Global Burden of Disease Database (1990-2021) with Projections to 2035. *Pediatric neurology*, 2(1), 2-13. <https://doi.org/10.1016/j.pediatrneurol.2025.07.014>
- Zhao, J., Li, S., Zhang, N., Zeng, J., Xie, Y., Fan, M., & Hong, S. (2025). Physical Activity in Children with Epilepsy in China: A Mixed-Method Study. *Journal of Pediatric Nursing*, 84, 319-327. <https://doi.org/10.1016/j.pedn.2025.06.042>
- Zhong, J., Lan, Y., Sun, L., Zhao, Z., Liu, X., Shi, J., & Dou, X. (2025). Global Prevalence of Post-Traumatic Epilepsy in Traumatic Brain Injury Patients: A Systematic Review and Meta-Analysis (1997-2024). *Neuroscience*, 2(2), 15-24. <https://doi.org/10.1016/j.neuroscience.2025.07.008>