The mediating role of emotion regulation in the relationship between personality traits and perfectionism with sleep quality in students

Mahdis darvishi[1], Touraj Hashemi Nosratabad[2], Zeinab Khanjani[3]

1. M.A. in General Psychology, Faculty of Educational Sciences and Psychology, University of Tabriz, Tabriz, Iran
2. Professor of Psychology, Faculty of Educational Sciences and Psychology, University of Tabriz, Tabriz, Iran
3. Professor of Psychology, Faculty of Educational Sciences and Psychology, University of Tabriz, Tabriz, Iran

ARTICLE INFO

ABSTRACT

The present study was conducted with the aim of determining the mediating role of emotion regulation in the relationship between personality traits and perfectionism with sleep quality in college students. The descriptive-correlational research method used structural equation modeling. The statistical population of the research consisted of all students of Tabriz University in 2022, from which 240 students were selected by cluster random sampling. Data were collected using the Pittsburgh Sleep Quality Index (PSQI; Buysse et al., 1989), the Five-Factor Personality Inventory (NEO-FFI; Costa & McCrae, 1989), Tehran's Multidimensional Perfectionism Scale (Besharat, 2016), and the Emotion Regulation Questionnaire (ERQ; Gross, 2003). The results of structural equation modeling showed that the proposed model had a favorable fit. The results indicated a significant and direct positive relationship between perfectionism, extraversion, openness to experience, agreeableness, and conscientiousness with emotion regulation and sleep quality, while there was a significant negative and direct relationship between neuroticism and emotion regulation and sleep quality (P < 0.01). The results of the bootstrap test revealed that emotion regulation plays a mediating role between personality traits and sleep quality, as well as between perfectionism and sleep quality (P < 0.01). The findings of this study suggest that emotion regulation mediates the relationship between personality traits and sleep quality, as well as between perfectionism and sleep quality.

Introduction

Sleep restores the physical and mental capabilities of humans, and its deprivation significantly affects the health and well-being of individuals (Kaplan & Sadock, 2015). Sleep is a highly organized and important biological process that plays a crucial role in physical and mental health, emotional-behavioral stability, and cognitive function (Taheri & Irandoost, 2019). Sleep reduces tension, anxiety, and nervous stress and helps a person regain energy for better concentration, adaptation, and enjoyment of daily activities (Rigi Koteh, Mojahid, Sarani-Izadpanah, & Mousavi, 2014). Any disruption in the sleep cycle, in addition to causing psychological problems, also reduces an individual's mental ability. Furthermore, numerous factors such as age, gender, and environmental and occupational conditions contribute to the occurrence of sleep disorders (Jafari et al., 2018).

One of the factors that can affect sleep quality is personality traits. As Robbins (2018) demonstrated, personality traits, which play a direct role in determining an individual's behavior, can also influence the quality and quantity of sleep(Bayat et al., 2021).. Personality consists of psychological and behavioral traits that are pervasive and enduring, distinguishing one individual from others (Meléndez et al., 2020). In this regard, Costa and McCrae (1992) proposed a theoretical model of the five-factor personality traits, defining them as basic dispositions with a biological basis. These dispositions predispose individuals to act and feel in specific ways and are not directly influenced by the environment. They identified five personality dimensions: neuroticism (the tendency to experience anxiety, tension, self-loathing, hostility, shyness, irrational thinking, depression, and low self-esteem) (Bayat et al., 2021)., extraversion (the tendency to be positive, assertive, outgoing, kind, and sociable), openness to experience (the tendency to be curious, artistic, intellectual, flexible, and innovative), agreeableness (the tendency to be forgiving, kind, generous, trusting, empathetic, obedient, and self-sacrificing) (Dedar Talesh Mickaeli Ardebil et al., 2019)., and conscientiousness (the tendency to be organized, efficient, reliable, self-motivated, progressive, and rational) (Westerhof, 2017). These personality traits can underlie sleep disorders by influencing habits, emotions, behaviors, and cognitive functioning (Meléndez et al., 2020).

In addition to personality traits, contemporary research emphasizes the role of other individual factors in determining sleep quality, among which perfectionism has been highlighted by some theorists. Perfectionism plays an important role in the pathology, etiology, and persistence of mental disorders (Moradizadeh, Besharat, Mirderikvand, & Ghadampour, 2019). As a transdiagnostic process, perfectionism is associated with a wide range of psychological problems, including insomnia (Hong, Short, Bartlet, & O'Shea, 2020). Perfectionism is a complex and multidimensional construct whose consequences are linked to both adaptive and maladaptive behaviors (Razavi Alavi, Shokri, & Pourshahriar, 2017). Studies by Shafran & Mansell (2001) and Chang & Rand (2000) indicate that neurotic perfectionism is positively associated with sleep disorders (Ghasemijou & Haghighat, 2014). Emotions have always had, and will continue to have, an impact on people's lives and sleep. In this regard, some researchers suggest that emotion regulation skills and strategies can influence sleep quality. Emotion regulation refers to the way individuals cope with and manage their emotions and is a determinant of emotional disorders (Soltani, 2023). Increasing positive emotional experiences facilitates effective coping with stressful situations and enhances responsiveness in social contexts. Emotion regulation strategies are associated with reducing negative emotions and emotional events, and focusing on positive strategies improves individuals' perception of emotion management (Haddad, Khalatbari, & Zarbakhsh Bahri, 2019). Garnefski and Kraaij (2019) proposed adaptive cognitive emotion regulation strategies, including acceptance, positive refocusing, refocusing on planning, positive reappraisal, and perspective-taking, as well as maladaptive strategies such as self-

blame, blaming others, rumination, and catastrophizing.

Soltani (2023) demonstrated that executive function training improves cognitive emotion regulation and sleep quality in elementary school children with slow cognitive tempo. Zafarramazanian et al. (2023) found that combined training in sleep hygiene, progressive muscle relaxation, and aerobic exercises enhances sleep quality in female nurses. Zarei and Hemmati (2022) showed that family functioning, perfectionism, exposure to stressful events, and rumination significantly affect sleep quality among students. Sohrabian, Gholamrezayi, and Sepahvandi (2021) revealed that personality traits and perfectionism are related to emotion regulation, with neuroticism directly and indirectly linked to insomnia through maladaptive emotion regulation strategies. Mahmoudi, Bassaknejad, and Mehrabizadeh (2021) indicated that emotion regulation strategies are associated with sleep quality. Alimirzaei et al. (2022) found a direct relationship between poor mood and poor sleep quality. Van Laethem et al. (2024) showed that smoking is significantly associated with poor sleep quality, while lifestyle and work characteristics were not generally linked to sleep disturbances. Zhou et al. (2023) demonstrated a significant relationship between sleep quality, anxiety, depression, and well-being, with poor sleep quality leading to lower well-being and increased anxiety and depression. Sella et al. (2020) found a significant association between sleep quality and conscientiousness. Vandekerckhove and Wang (2018) showed that high emotional arousal leads to physiological arousal, resulting in sleep disturbances or delayed sleep onset. Stephan et al. (2018) found that low neuroticism and high extraversion were associated with better sleep quality, while poor sleep quality exacerbates neuroticism. McDowell et al. (2017) demonstrated that perfectionism is linked to difficulties in emotion regulation. Duggan et al. (2014) found that sleep quality is associated with neuroticism, acceptance, extraversion, and agreeableness. Baglioni et al. (2010) showed that impaired emotion regulation increases emotional reactivity, contributing to insomnia through cognitive and physiological hyperarousal. Williams and Moroz (2009) found that acceptance and neuroticism were positively and negatively correlated with sleep quality, respectively.

Given the lack of findings on the relationship between personality traits, perfectionism, and sleep quality through emotion regulation, this study seeks to answer the following question: Does emotion regulation mediate the relationship between personality traits, perfectionism, and sleep quality?

Method

The present study was of a basic type, considering the objectives and hypotheses , and according to the data collection method , it was classified as a descriptive - correlational research using structural equation modeling . The statistical population of this study consisted of all students of the University of Tabriz , 1235 people . Sampling was carried out in such a way that 153 students of the University of Tabriz were selected using multi - stage cluster sampling method based on the sample size required for structural equation modeling . For this purpose , first, five faculties and then five classes from each faculty were randomly selected from among the faculties of the University of Tabriz , and all students present in these classes were considered as the final sample of the research .

To collect data, first, the necessary permits were obtained from the university and then the sampling process was carried out . After selecting the faculties and classes, the researchers visited the location of the classes and provided an official letter of introduction , and after obtaining permission from the relevant professors , asked the students to complete the questionnaires accurately and honestly . The participants were assured that their data would remain confidential and would be used only for research purposes . After collecting the questionnaires , the data were scored and analyzed using SPSS version 25 statistical software . In the data analysis section , descriptive and inferential statistical methods

were used . In the descriptive statistics stage , central and dispersion indices were calculated , and in the inferential statistics section , data analysis was performed using structural equation modeling (SEM) .

Tools:

The present study was basic in type, considering the objectives and hypotheses, and according to the data collection method, it was classified as a descriptive-correlational research study using structural equation modeling. The statistical population of this study consisted of all students of the University of Tabriz, totaling 1,235 individuals. Sampling was carried out in such a way that 153 students from the University of Tabriz were selected using a multi-stage cluster sampling method based on the sample size required for structural equation modeling. For this purpose, first, five faculties and then five classes from each faculty were randomly selected from among the faculties of the University of Tabriz, and all students present in these classes were considered as the final sample of the research.

To collect data, first, the necessary permits were obtained from the university, and then the sampling process was carried out. After selecting the faculties and classes, the researchers visited the locations of the classes and provided an official letter of introduction. After obtaining permission from the relevant professors, the students were asked to complete the questionnaires accurately and honestly. The participants were assured that their data would remain confidential and would be used only for research purposes. After collecting the questionnaires, the data were scored and analyzed using SPSS version 25 statistical software. In the data analysis section, descriptive and inferential statistical methods were used. In the descriptive statistics stage, central tendency and dispersion indices were calculated, and in the inferential statistics section, data analysis was performed using structural equation modeling (SEM).

Tools:

Pittsburgh Sleep Quality Index (PSQI): This questionnaire was developed in 1989 by Buysse and colleagues at the Pittsburgh Psychiatric Institute. The PSQI consists of 7 subscales: subjective sleep quality, sleep latency, sleep duration, sleep efficiency, sleep disturbances, use of sleeping medications, and daytime dysfunction. Each of the 7 subscales is scored from 0 to 3, and the total score of the questionnaire ranges from 0 to 21. Higher scores indicate poorer sleep quality. A total score greater than 5 indicates that the subject has sleep deprivation and severe problems in at least two areas or moderate problems in more than three areas. The reliability of this questionnaire has been reported as 83% using Cronbach's alpha coefficient (Kakooei et al., 2010). In the present study, the reliability of this questionnaire was estimated as 0.821 using Cronbach's alpha.

Five-Factor Personality Inventory (NEO-FFI): This 60-item short-form questionnaire assesses five dimensions: neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness. The scoring of this questionnaire is based on a 5-point Likert scale. In the standardization of the NEO test, which was conducted by Ghorbani Farshi (2001) on a sample of 2,000 students from the universities of Tabriz, Shiraz, and the medical universities in these two cities, the correlation coefficients of the five main dimensions were reported to be between 0.56 and 0.87. Cronbach's alpha coefficients for each of the main factors—neuroticism, extraversion, openness, agreeableness, and conscientiousness—were 0.86, 0.73, 0.56, 0.68, and 0.87, respectively. To examine the content validity of this test, the correlation between the self-report forms and the observer assessment form was used, with the maximum correlation being 0.66 for the extraversion factor and the minimum being 0.45 for the agreeableness factor (Ghorbani Farshi, 2001). In the present study, the reliability of this questionnaire was estimated with a Cronbach's alpha of 0.818.

Tehran Multidimensional Perfectionism Scale (TMPS): The Tehran Multidimensional Perfectionism Scale (Besharat, 2007) is a 30-item questionnaire that measures three dimensions: self-oriented, other-oriented, and socially prescribed perfectionism, on a 5-point Likert scale (from 1 to 5). The minimum and maximum scores of the examinee on the three scales of the test are 10 and 50, respectively. Besharat (2007) calculated the content validity of the Tehran Multidimensional Perfectionism Scale using Kendall's agreement coefficients for the dimensions of self-oriented perfectionism (0.80), other-oriented perfectionism (0.72), and socially prescribed perfectionism (0.69). The test-retest correlation coefficients between the scores of 78 subjects on two occasions with an interval of two to four weeks were r = 0.85 for self-oriented perfectionism, r = 0.79 for other-oriented perfectionism, and r = 0.84 for socially prescribed perfectionism. Additionally, the internal consistency of the Tehran Perfectionism Scale was calculated using Cronbach's alpha coefficient for the total items (n = 500) as follows: self-oriented perfectionism (0.90), other-oriented perfectionism (0.91), and socially prescribed perfectionism (0.81), indicating satisfactory internal consistency. In the present study, the reliability of this questionnaire was estimated with a Cronbach's alpha of 0.812.

Emotion Regulation Questionnaire (ERQ): This questionnaire was developed by John Gross in 2003. The ERQ measures regulatory strategies in two components: reappraisal (6 items) and suppression (4 items). This questionnaire consists of 10 questions, each answered on a five-point Likert scale. The higher the score, the greater the level of regulation. In the study by John Gross, the internal consistency for reappraisal was 0.79 and for suppression was 0.73. In the present study, the reliability of this questionnaire was estimated to be 0.816 using Cronbach's alpha.

Findings

350 students participated in this study, most of whom were in the age range of 20-25 years, and most of whom were male, married, and students of the Faculty of Psychology and Educational Sciences. The Chulgi and Keshidagi tests were used to assess the normality of the research data.

Table 1. Normality assessment of data using skewness and kurtosis tests		
Components	**Skewness**	**Kurtosis**
Emotion Regulation	-0.596	0.414
Sleep Quality	-0.308	0.552
Neuroticism	0.219	-0.305
Extraversion	-0.028	-0.307
Agreeableness	0.115	-0.444
Openness to Experience	0.037	-0.029
Conscientiousness	0.155	-0.045
Perfectionism	-0.208	-0.271

According to the results presented in Table 1, all indices are within the standard range, which indicates the normality of the data distribution. Her et al. (2010) and Bryan (2010) argued that if the skewness is between -2 and +2, and the stretch is between -7 and +7, the data distribution is considered normal. To examine the relationship between research variables, a Pearson correlation matrix was used.

Table 2. Correlation Matrix of Research Variables

No.	Variable	1	2	3	4	5	6	7	8
1	Emotion Regulation	1							
2	Sleep Quality	0.498**	1						
3	Neuroticism	-0.440**	-0.431**	1					
4	Extraversion	0.407**	0.434**	-0.421**	1				
5	Agreeableness	0.437**	0.435**	-0.300**	0.502**	1			
6	Openness to Experience	0.453**	0.409**	-0.368**	0.532**	0.551**	1		
7	Conscientiousness	0.403**	0.440**	-0.490**	0.513**	0.546**	0.544**	1	
8	Perfectionism	0.494**	0.497**	-0.435**	0.537**	0.531**	0.508**	0.504**	1

** $P \leq 0.01$

The results of the correlation matrix (Table 2) showed that there is a positive relationship between extraversion, eagerness for new experiences, agreeableness, conscientiousness, perfectionism, sleep quality, and emotion regulation ($P<0.01$) and a negative relationship between neuroticism, perfectionism, sleep quality, and emotion regulation ($P<0.01$). To examine the multiple non-collinearity of the path analysis assumptions, the VIF, tolerance, and Durbin-Watson options were used.

Table 3. Multicollinearity Assessment (VIF, Tolerance) and Durbin-Watson Test

Row	Independent Variables	Dependent Variable: Sleep Quality		
		Durbin-Watson	Tolerance	VIF
1	Emotion Regulation	2.004	0.743	1.346
2	Neuroticism	-	0.713	1.403

3	Extraversion	-	0.581	1.720
4	Agreeableness	-	0.584	1.713
5	Openness to Experience	-	0.562	1.780
6	Conscientiousness	-	0.520	1.924
7	Perfectionism	-	0.744	1.343

The results of Table 3 showed that the value of Watson's camera is between 1.5 and 2.5, and since the VIF value is close to 1 and the tolerance value is greater than 0.05, all three factors indicate non-collinearity of the variables. Figure 1 is the structural equation model in standard form, which was designed with the software (Lisrel V. 10).
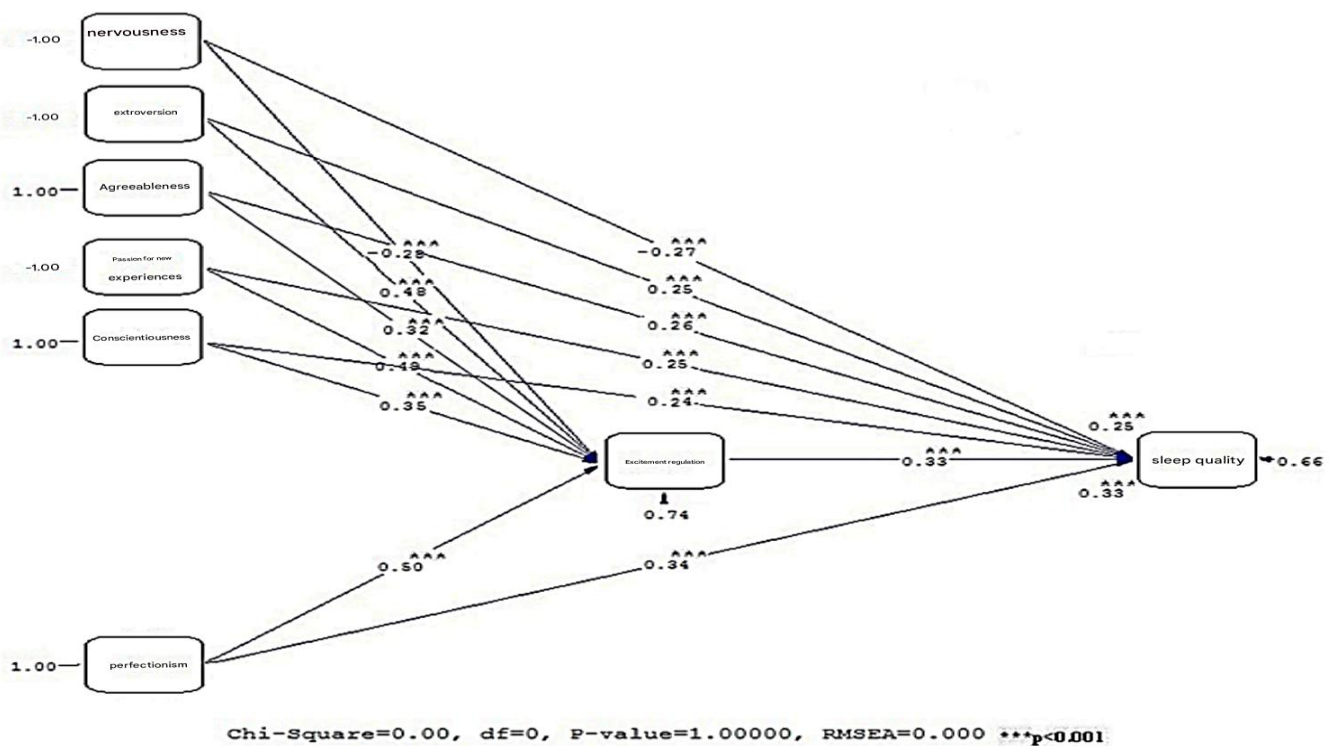

Chi-Square=0.00, df=0, P-value=1.00000, RMSEA=0.000 ***p<0.001

Chart 1- Model Test Done Sleep quality (standard coefficients)

Given that the chi-square statistic showed no significance, the theoretical model of the research has a good fit (Ahmadi and Amani Sari-Begloo, 2016: 108). Table 4 reports the direct and indirect relationships, as well as the explained variance of the variables.

Table 4 - Relationships and Human Race Fever Done Variable Research				
Route	Direct Relationship	Indirect Relationship	Total Relationship	Explained Variance
From neuroticism to emotion regulation	-0.28	-	-	-
From extraversion to emotion	0.48	-	-	-

Table 4 - Relationships and Human Race Fever Done Variable Research				
Route	**Direct Relationship**	**Indirect Relationship**	**Total Relationship**	**Explained Variance**
regulation				
From agreeableness to emotion regulation	0.32	-	-	-
From craving new experiences to emotion regulation	0.49	-	-	-
From conscientiousness to emotion regulation	0.35	-	-	-
From perfectionism to emotion regulation	0.50	-	-	-
From neuroticism to sleep quality	-0.27	-	-	-
From extraversion to sleep quality	0.25	-	-	-
From agreeableness to sleep quality	0.26	-	-	-
From desire for new experiences to sleep quality	0.25	-	-	-
From conscientiousness to sleep quality	0.24	-	-	-
From perfectionism to sleep quality	0.34	-	-	-
From emotion regulation to sleep quality	0.33	-	-	-
Neuroticism and emotion regulation combined with sleep quality	-	-0.09	-0.36	0.25
Extraversion and emotion regulation combined with sleep quality	-	0.16	0.41	0.25
Agreeableness and emotion regulation combined with sleep quality	-	0.11	0.37	0.25

Table 4 - Relationships and Human Race Fever Done Variable Research				
Route	**Direct Relationship**	**Indirect Relationship**	**Total Relationship**	**Explained Variance**
Craving new experiences and emotion regulation combined with sleep quality	-	0.16	0.41	0.25
Conscientiousness and emotion regulation combined with sleep quality	-	0.12	0.36	0.25
Perfectionism and emotion regulation combined with sleep quality	-	0.17	0.51	0.33

The findings in Table 4 show that neuroticism, extraversion, eagerness for new experiences, agreeableness, conscientiousness, and emotion regulation explain 25% of sleep quality, while the combination of perfectionism and emotion regulation explains 33% of sleep quality among students of Tabriz University. There is also a significant and direct relationship between perfectionism, neuroticism, extraversion, eagerness for new experiences, agreeableness, conscientiousness, emotion regulation, and sleep quality; however, only in neuroticism were these relationships negative and significant, while in the other variables, the relationships were positive and significant. Additionally, there is a significant and indirect relationship between perfectionism, neuroticism, extraversion, eagerness for new experiences, agreeableness, and conscientiousness through emotion regulation with sleep quality.

Only in neuroticism were these relationships negative and significant; in the other variables, the relationships were positive and significant. Emotion regulation mediates the relationship between personality traits (neuroticism, extraversion, eagerness for new experiences, agreeableness, and conscientiousness) and perfectionism with sleep quality. To examine the fit of the tested model, three categories of absolute, comparative, and parsimonious fit indices were used. In Table 5, these indices are reported separately.

Table 5 – Goodness-of-Fit Indicators for Model Testing		
Fit Index	**Research Model Value**	**Decision Criterion**
GFI	0.97	> 0.80
AGFI	0.89	> 0.80
SRMR	0.001	< 0.05
CFI	0.98	> 0.90
NFI	0.96	> 0.90

Table 5 – Goodness-of-Fit Indicators for Model Testing		
Fit Index	**Research Model Value**	**Decision Criterion**
NNFI	0.95	> 0.90
χ^2 / df	1.17	< 3
PNFI	0.99	> 0.60
RMSEA	0.003	< 0.08

According to Table 5, the fitness indices obtained from the structural equation modeling of the research conceptual model indicate the optimal fit of the model. The research is supported by the collected data, so it can be said that the proposed model has a good fit.

Discussion and conclusion

The results of the study showed that there is a significant, positive, and direct relationship between perfectionism, extraversion, desire for new experiences, agreeableness, professional function, life regulation, and sleep quality, but it was significant, negative, and direct in neuroticism. There is a significant, positive, and indirect relationship between perfectionism, extraversion, desire for new experiences, agreeableness, and professional function through life regulation with sleep quality, but it was significant, negative, and indirect in neuroticism. The relationship between emotion regulation and personality traits (psychopathy, extraversion, eagerness for new experiences, agreeableness, conscientiousness) and perfectionism are associated with sleep quality.

The results of the present study are consistent with and overlap those of Sohrabian et al. (2010), Mahmoudi et al. (2010), Alimirzai et al. (2012), Sella et al. (2020), Vantigam and Tottenham (2018), Stephen et al. (2018), Macedo et al. (2017), Dugan et al. (2014), Baglivani et al. (2010), and Williams and Moroz (2009).

In explaining the first result, it can be stated that personality traits in humans cause different behaviors and reactions, and these traits, which are of five different types—neuroticism, extraversion, eagerness for new experiences, agreeableness, and conscientiousness—cause different reactions and behaviors in humans at different times. In this case, neuroticism is the only negative personality factor that leads to anxiety, stress, rumination, mental confusion, and behavioral problems. The more this factor is present in humans, the more difficult it becomes for them to regulate their lives. This difficulty causes the person to lose self-control when emotionally stressed. This factor leads to a decrease in sleep quality and even disruption of the sleep cycle in humans, making the necessary hours of rest stressful. From this perspective, it causes these people to create daily problems for the rest of the family.

In explaining the second result, it can be stated that when the sense of perfectionism decreases, the individual experiences emotional tension, and when it increases, a person is always experiencing life stress and disruption of their normal sleep patterns because they want to achieve success and spend all their energy on the path ahead. This factor leads to nervous tension and stress and disrupts the sleep process. In fact, perfectionism should be moderate because it is a complex and multidimensional construct whose consequences are related to adaptive and maladaptive behaviors and, to a greater or lesser extent, causes complex problems in life. The higher the level of perfectionism, the higher the

individual's expectations of themselves. These expectations cause the individual to feel incompetent, suffer from neuroticism, sleep anxiety, and decreased sleep quality. When the level of perfectionism decreases, the individual begins to ruminate about themselves and lag behind others. This thinking causes negative emotions to develop in the individual and leads to emotional problems.

In explaining the third result, it can be stated that if the regulation of the mind is in its normal state and negative and positive emotions are controlled, and the individual does not have emotional tension in their life, the quality of sleep will also be calm and comfortable. However, when this regulation of the mind becomes tense—whether due to negative or positive emotions—it will cause emotional problems and disrupt the normal sleep process in individuals. The more negative tensions increase, the more rumination, anxiety, and stress will increase, preventing normal sleep quality. On the other hand, the more positive emotional tensions are, the more the individual's enthusiasm, interest, and extremism in the path they have chosen will increase. These factors will also cause the individual to deviate from their normal sleep, reduce the amount and duration of sleep, and increase tensions and behavioral and mood problems.

In general, it can be said that if each person, considering their abilities, can balance the regulation of their life in terms of control and personal characteristics and achieving the goals they intend with their daily and normal life, this factor will cause them not to lag behind the life and activities ahead of them. They can define a special place for each of them and, by controlling all things during the time of activity, focus all their attention on their work. During the time of rest, they will focus all their attention on their rest. From this perspective, it will prevent interference between these factors, allowing work, career life, and even studies to progress according to the usual process and away from various tensions. The mind plans the necessary times for activity and rest, preventing the disruption of the system and the usual process of life. Personal characteristics have an impact on the lives of all people, and the individual is no exception. On the other hand, striving for success and achieving progress—or laziness and idleness—is a third process of life that an individual develops for themselves in their work and educational life. If work and educational life are not separated from normal and ordinary life, these two will interfere with each other, and personal characteristics will affect the work and educational process, while perfectionism will affect the ordinary process of life. In this case, negative and positive emotions will interfere and cause mental and spiritual confusion, as well as the emergence of physical problems in life. They have negative effects on living conditions, sleep, and even eating habits, disrupting normal life, sleep, and eating. Therefore, by separating life outside the home from life inside the home, one should prevent the emergence of personal problems, work problems, etc., in normal life. In this way, by giving the brain a break, one can control negative emotions and prevent the emergence of various tensions in work and educational life while ensuring enough rest time for the body.

There were the following limitations in conducting the present study: There are limitations in generalizing the results to other cities and provinces of the country, given that the statistical population of this study was students of the University of Tabriz.

Finally, the following suggestions are presented: By controlling different personality states with the help of psychological counseling and intervention training, the level of neurotic personality traits can be reduced, and the level of other traits can be increased. The level of perfectionism should remain normal, emotions should be controlled, and emotional tensions and disruption of rest and sleep should be prevented in students so that they can manage their emotional processes, prevent disruption of personality traits and excesses in perfectionism, and in this way, improve the quality of sleep and rest.

References

- Ahmadi, M., & Amani Sari Bagloo, J. (2016). Guide to using LISREL software in behavioral research. Islamic Azad University, Urmia Branch Publications.
- Ali Mirzaei, R., Azizzadeh Forouzi, M., Abazari, F., Mohammadalizadeh, S., & Haghdoost, A. A. (2015). Sleep quality and some related factors in Kerman nursing and midwifery students. Journal of Health and Development, 4(2), 146–157.
- Baglioni, C., Spiegelhalder, K., Lombardo, C., & Riemann, D. (2010). Sleep and emotions: A focus on insomnia. Sleep Medicine Reviews, 14(4), 227–238.
- Bayat M, Jabbari S, Soraya Tayfeh Dallali K, Atadokht A. The role of loneliness, educational exhaustion and sleeping quality in predicting smoking tendency in students. RJMS 2021; 28 (4) :46-56
- Byrne, B. M. (2010). Structural equation modeling with AMOS: Basic concepts, applications, and programming (2nd ed.). Routledge.
- Costa, P. T., Jr., & McCrae, R. R. (1992). Four ways five factors are basic. Personality and Individual Differences, 13(6), 653–665.
- Dedar Talesh Mickaeli Ardebil, F. , Soraya Taifee Dalai, K. , Bayat, M. and Fekri Sheeran, M. (2020). Role of attitude toward the field of education and career future, the feeling of loneliness and Sleeping Quality in predicting Students' educational exhaustion. Medical Journal of Mashhad university of Medical Sciences, 62(5.1), 1804-1814.
- Duggan, K. A., Friedman, H. S., McDevitt, E. A., & Mednick, S. C. (2014). Personality and healthy sleep: The importance of conscientiousness and neuroticism. PLoS ONE, 9(3), e90628.
- Ghasemijoo, R., & Haghighat, S. (2023). Predicting academic vitality based on emotional self-regulation strategies and perfectionism in students. Quarterly Journal of New Ideas in Psychology, 17(21), 1–20.
- Haddad, S., Khalatbari, J., & Zarbakhsh Bahri, M. R. (2013). The effectiveness of mindfulness-based cognitive therapy on emotion regulation and personality type symptoms in heart patients with ICD. Psychological Studies of Adolescents and Youth, 4(4), 24–38.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate data analysis (7th ed.). Pearson.
- Huang, T., Mariani, S., & Redline, S. (2020). Sleep irregularity and risk of cardiovascular events: The Multi-Ethnic Study of Atherosclerosis. Journal of the American College of Cardiology, 75(9), 991–999.
- Jafari, A., Heydari Sureshjani, R., & Zare, K. (2018). Investigating the relationship between sleep quality and stress, anxiety and depression in students of Shushtar Faculty of Medical Sciences. Ahvaz Jundishapur Education Development Journal, 9(3), 197–205.
- Kaplan, H. I., & Sadock, B. J. (2015). Synopsis of psychiatry: Behavioral sciences (11th ed.). Lippincott Williams & Wilkins.
- Kraaij, V., & Garnefski, N. (2019). The Behavioral Emotion Regulation Questionnaire: Development, psychometric properties and relationships with emotional problems and the Cognitive Emotion Regulation Questionnaire. Personality and Individual Differences, 137, 56–61.
- Macedo, A., Marques, C., Quaresma, V., Soares, M. J., Amaral, A. P., Araújo, A. I., & Pereira, A. T. (2017). Are perfectionism cognitions and cognitive emotion regulation strategies mediators between perfectionism and psychological distress? Personality and Individual Differences, 119, 46–51.
- Mahmoudi, T., Basaknejad, S., & Mehrabizadeh Honarmand, M. (2019). The role of anger rumination and cognitive strategies for emotion regulation in predicting sleep quality in female students. Knowledge and Research in Applied Psychology, 21(1), 1–7.
- Melendez, J. C., Satorres, E., & Delhom, I. (2020). Personality and coping. What traits predict adaptive strategies? Anales de Psicología, 36(1), 39–45.

- Moradizadeh, S., Viskaram, H., Mirdrikvand, F., Ghadampour, E., & Ghazanfari, F. (2019). Study and comparison of the effectiveness of positive psychotherapy and reality therapy on reducing perfectionism and academic stress in gifted female students. Psychology of Exceptional Individuals, 9(34), 79–110.
- Razavi Alavi, Z., Shokri, O., & Pourshahriar, H. (2017). Modeling the relationships between perfectionism, emotions of achievement and academic well-being in gifted students: A test of sex invariance. Psychology of Exceptional Individuals, 7(28), 95–135.
- **References**
- Rigi Kote, B., Mojahid, A., Sarani Yaztepe, J., & Mousavi, S. E. (2022). The effectiveness of psychological (psychoeducational) tests on sleep quality of chronic physical patients in Iran: A meta-analytic study (2021–2022). Daily Internal Medicine, 28(2), 220–243.
- Robbins, M. (2018). Basic and general pathology (S. Taraz Jamshidi, N. Kordoni Khuzestani, & M. Ghaderi, Trans.). Andisheh Rafi Publications. (Original work published 2018)
- Sella, E., Carbone, E., Toffalini, E., & Borella, E. (2020). Personality traits and sleep quality: The role of sleep-related beliefs. Personality and Individual Differences, 156, 109770.
- Sohrabian, T., Gholam Rezaei, S., & Sepahvandi, M. A. (2019). Prediction of ADHD sleep by component smooth suffering and perfection orientation through the mediation of cognitive regulation of emotion and anxiety. Clinical Psychology, 12(4), 25–36.
- Soltani, N. (2023). The effectiveness of executive functions training on cognitive emotion regulation and sleep quality of elementary school children with slow cognitive rhythm. *Rooyesh-e-Ravanshenasi, 12*(2), 1979–2006.
- Stefan, L., Vrgoč, G., Rupčić, T., Sporiš, G., & Sekulić, D. (2018). Sleep duration and sleep quality are associated with physical activity in elderly people living in nursing homes. International Journal of Environmental Research and Public Health, 15(11), 2512.
- Taheri, M., & Irandoost, K. (2019). The relationship between sleep quality and physical activity and lifestyle of the elderly. Salamat: Iranian Journal of Aging, 15(2), 188–199.
- van Elk, F., Loef, B., Proper, K. I., & van der Beek, A. J. (2024). Sleep quality, sleep duration, and sleep disturbances among hospital night workers: A prospective cohort study. International Archives of Occupational and Environmental Health, 97, 179–188.
- Vantieghem, M. R., & Tottenham, N. (2018). Neurobiological programming of early life stress: Functional development of amygdala-prefrontal circuitry and vulnerability for stress-related psychopathology. Current Topics in Behavioral Neurosciences, 38, 117–136.
- Westerhof, G. J., Bohlmeijer, E. T., & McAdams, D. P. (2017). The relation of ego integrity and despair to personality traits and mental health. Journals of Gerontology: Series B, 72(3), 400–407.
- Williams, P. G., & Moroz, T. L. (2009). Personality vulnerability to stress-related sleep disruption: Pathways to adverse mental and physical health outcomes. Personality and Individual Differences, 46(5–6), 598–603.
- Zafarramazanian, F., Ghavami, H., Alinejad, V., & Jasemi, M. (2013). The effect of a virtual healthy lifestyle training program on the sleep quality of female nurses working in educational and treatment centers of Urmia University of Medical Sciences in 2013. Journal of Nursing and Midwifery, 21(5), 354–365.
- Zarei, S., & Hemmati, A. H. (2022). The mediating role of maladaptive perfectionism and rumination in the relationship between family functioning and stressful life events with sleep quality of students. *Rooyesh-e-Ravanshenasi, 11*(9), 21–32.
- Zhu, Y., Meng, R., Jiang, C., Yang, N., Huang, M., Wang, X., ... & Dzierzewski, J. M. (2023). Sleep quality and subjective well-being in healthcare students: Examining the role of anxiety and depression. Frontiers in Public Health, 11, 1281571.