

Role of Perceived Family Resilience, Meaning in Life, and Differentiation in Making a Distinction Between Smoker and non-Smoker Students in Ardabil University of Medical Sciences

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Abstract

Background: the Psychological and family factors play a critical important role in the emergence occurrence or prevention of addictive behaviors.

Objective: The aim of the study was to determine the role of family resilience, meaning in life, and differentiation in making a distinction between smoking and non-smoking students in Ardabil University of Medical Sciences, Iran.

Methods: This case-control study was done on students of Ardabil University of Medical Sciences, Iran, in the academic year 2019. Among this population, 95 smoker and 95 non-smoker students were selected as the research sample using the available sampling method. Regarding the research instruments, this research is a case-control study. The statistical population of the present study was students of Ardabil University of Medical Sciences in the academic year 2019, from which 80 smokers and 80 non-smokers were selected as the research sample using the available sampling method. In this study, family resilience, meaning in life, and differentiation questionnaires were used to collect data. Data were analyzed in SPSS software (version 21) using the For data analysis, discriminant analysis method was used with SPSS.21 software.

Results: results showed that, showed that 66% of the variance of family resilience, meaning in life, and differentiation for the only discriminant function was explained by the difference between the two groups of smokers and non-smokers.

Conclusions: Considering the high level average of family resilience, meaning in life, and differentiation in non-smoking students, it can be concluded that these traits perform family resilience, meaning in life, and differentiation have a significant role in distinguishing between smoking and non-smoking university students.

Keywords: Resilience, Value of Life, Differentiation, Smoker, Non-Smoker, Students

Introduction

Smoking is a harmful habit on the rise and one of the leading causes of death in the world, claiming millions of lives every year (1). According to the World Health Organization, one person dies every 30 seconds due to excessive smoking (2). The students constitute a high-risk group for smoking, the majority of whom are young and exposed to a variety of risky behaviors. In Iran, research demonstrated that the prevalence of smoking among Iranian students varies from 13.4%-39.9% (1). This harmful behavior endangers both the physical and mental health of smokers; moreover, it can lead to opioid and stimulant addiction (3).

Based on the literature review, smoking among adolescents and young people is associated with psychosocial factors in the family, school, and peer group. In addition, psychological factors, such as poor parent-child relationships and unhealthy family structure, play a key role in adolescents' tendency to

smoke (4). It can be stated that in addition to individual variables, family variables can contribute greatly to this tendency. Among them, family resilience can be considered an important and effective variable in the reduction or enhancement of addiction tendency.

Family resilience refers to the ability of family members to respond positively and adopt constructive and adaptive coping strategies to deal with life challenges (5). It indicates the fact that family members work together to cope effectively with a stressful event by supporting each other (6). Therefore, these significant traits in the family can protect its members from the destructive effects of problematic events (7,8). The results of studies in this field suggested that family resilience plays a fundamental role in curbing the tendency toward addictive behaviors, such as Internet addiction (9).

In addition to family characteristics, having a sense of meaning in life is one of the factors that need

to be considered in the reduction of addictive behaviors. Recent investigations on addiction have demonstrated that having meaning and purpose in life is a critical factor in the reduced tendency toward addictive behaviors, such as cell phone or Internet addiction (10). Frankel stated that humans are motivated by their **quest for meaning**; that is to say, the values and goals that vary depending on the situation of individuals (11). Researchers believe that meaning in life acts as a shield against life stressors, enabling people to cope with these adverse events (12). On the other hand, in the absence of this meaning, people seek relief from substances and drugs which are harmful to their health (13). The related studies pointed out that psychological interventions for addicts or alcoholics help them to find meaning in life and cut down on the amount of drug or alcohol they consume (14).

Another factor that can be related to students' tendency toward destructive behaviors is the degree of their differentiation, which includes the interpersonal ability to distinguish between methods of thinking and feeling and maintain independence, along with intimacy with important people in life. People's inability to separate the emotional and intellectual processes in different situations can bring about serious emotional problems (15). People with a well-differentiated "self" are characterized by healthy and successful functioning in family and other situations; moreover, they have greater self-confidence and self-efficacy. On the contrary, poorly differentiated individuals move in the face of interpersonal tensions and issues with an emotional atmosphere. They experience high levels of anxiety, which can lead to a variety of physical and psychological illnesses, such as alcoholism (16). Studies in this field indicated that high differentiation acts as a protective factor against alcohol and drug use, as well as other social ills, while low differentiation reinforces the tendencies among students to consume alcohol (17, 18).

Despite a worrying tendency among students to smoke, the relationship between the studied variables and smoking in students is a neglected issue. Moreover, in the studies was done in Iran, the influence of family resilience, differentiation, and meaning in life as preventive and therapeutic agents have received less attention. In light of the aforementioned issues, the present study aimed to determine the role of family resilience, meaning in life, and differentiation in making a distinction between smoker and non-smoker students.

2. Methods

Study Design and Participants

This case-control study was conducted on the students in Ardabil University of Medical Sciences, Iran, in the academic year 2019. In similar studies, the minimum required sample for comparative

research was 30 subjects in each group (19). In the present study, 95 smoker and 95 non-smoker students were selected from the School of Medicine, Dentistry, and Pharmacy using the available sampling method considering the possibility of incomplete questionnaires. Finally, 80 smoker and 80 non-smoker students completed the questionnaire.

The inclusion criteria entailed the age range of 20-30 years, Iranian nationality, student of the School of Medicine, Dentistry and Pharmacy, presence or the absence of smoking history, lack of physical and mental illnesses, and willingness to participate. To comply with the ethical considerations of research, the study was performed in accordance with the Declaration of Helsinki and approved by Ardabil University of Medical Sciences, Iran. The research objectives were explained to the participants, and they were assured that their information would remain confidential. Those who met the inclusion criteria and were willing to take part in the study completed the informed consent and agreement forms. It is noteworthy that the participants could withdraw from the research at any stage, and the rights of the participants were respected by ensuring anonymity and confidentiality.

2.2. Research Tools

In this study, the research instrument was selected based on the sample and the appropriateness of the measured values. This article was extracted from an approved project by the Vice Chancellor for Research of the University of Mohaghegh Ardabili(10788-99/10/5).

Family Resilience Questionnaire

Family Resilience Assessment Scale(FRAS) by Sixbey (2005) was used for the assessment of family resilience. This 66-item Questionnaire comprises six areas of family communication and problem-solving, benefiting from economic and social resources, maintaining a positive outlook, family bonding, family spirituality, and the ability to create meaning for hardship and difficulty. The items are rated on a four-point Likert scale, ranging from strongly disagree (1) to strongly agree (4), with higher scores indicating more family resilience (20). This questionnaire was translated and standardized in Iran by Sadat Hosseini et al. in 2013, its validity was confirmed using factor analysis, and its Cronbach's Alpha Reliability Coefficient was obtained at 0.96 (9).

Meaning in Life Questionnaire

This 10-item scale was developed by Steger et al. (2006) to assess two dimensions of meaning in life: "the existence of meaning" and "search for meaning". The items are rated on an eight-point Likert scale, ranging from 0: completely wrong to 7: completely correct (21). The scores of both subscales range from 5-35, with a higher score indicating a higher rate of

existence or search for meaning in life. The reliability coefficients of this questionnaire were obtained at 0.90 for the whole questionnaire, as well as 0.87 and 0.89 for the subscales of meaning in life and search for meaning in life, respectively (22). In addition, the validity of this questionnaire was confirmed using and Oreyzi were reported as 0.83 and 0.78, respectively (23).

Differentiation scale

This 45-item questionnaire was developed by Skowron and Friedlander in 1998. The items are rated based on a six-point Likert scale, ranging from 1 (strongly disagree) to 6 (strongly agree). It consists of four subscales of emotional responsiveness, my position, emotional escape, and integration with others (24). High scores in each subscale indicate a high level of self-differentiation. According to the studies, the reliability of this questioner based on the alpha coefficient for the whole scale is 0.88 and for the subscales are 0.84, 0.83, 0.82, and 0.74, respectively (17). This questionnaire was translated

factor analysis. Furthermore, it has good convergent validity with the Life Satisfaction and Positive Emotion Questionnaire. Moreover, the internal consistency coefficients of both subscales of "the existence of meaning" and "search for meaning" in the study by Bapiri, Kalantari, Neshat Dost, and standardized in Iran by Skian in 2004 and, its validity and reliability have been confirmed (25).

Data Analysis

The collected data were analyzed in SPSS software (version 21) using descriptive statistics (mean and standard deviation), Pearson correlation coefficient with the significance level of $P < 0.001$, and multiple linear regression analysis.

3. Results

The mean age of students was reported as 22.18 ± 1.86 years (age range: 20-30), and the mean duration of smoking in the smoking group was 4.3 ± 2.12 .

Table 1. Mean scores of and SD of family resilience, meaning of life, and differentiation in smoking and non-smoking students (nN= 80 Smoking, 80 Nonsmoking in each group)

Variables	Smokers M \pm SD	Non-smokers M \pm SD
Family Resilience	128.13 \pm 11.83	157.74 \pm 14.45
Meaning of Life	32.31 \pm 4.08	41.08 \pm 5.26
Differentiation	144.87 \pm 12.23	165.76 \pm 13.40

The descriptive indicators of study variables in smokers and non-smokers are reported in Table 1. The findings demonstrated that the mean scores of family resilience, meaning of life, and differentiation

in smoking and non-smoking students were obtained at 128.13 \pm 11.83, 157.74 \pm 14.45, 32.31 \pm 4.08, 41.08 \pm 5.26, 144.87 \pm 12.23, and 165.76 \pm 13.40, respectively.

Table 2. Summary of information on the discriminant function of each predictor variable

Variables Predictor	Wilks Lambda	F	Df	p
Family Resilience	0.894	18.53	1	$P \leq 0.0001$
Meaning of Life	0.964	5.81	1	$P \leq 0.005$
Differentiation	0.945	9.15	1	$P \leq 0.003$

The summary of information on the discriminant function of each predictor variables are reported in Table 2. Based on this table, since The findings showed that due to the small Wilkes lambda is less than 1 and the significance level is less than 0.05, all

discriminant functions are significant, and these functions have good diagnostic power for each variable to explain the dependent variable in both levels of smokers and non-smokers.

Table 3. Conventional discriminant function and important functional information by discriminant analysis method

important information related	discriminant analysis
Point function	Simultaneous method
Eigenvalues	0.175
Conventional Solidarity	0.356
Wilks's lambda	0.873 20.9
Chi-square Degrees of freedom Significance of discriminant function	3 $p \leq 0.001$

The results of Table 3 demonstrated showed Cconventional discriminant function and important functional information by discriminant analysis method. The findings suggested showed that in simultaneous point analysis, due to the small Wilkes lambda, as well as high chi-square value and significance level $P \geq 0.001$, the obtained discriminant function has good diagnostic power to explain the variance of the dependent variable in both levels of smokers and non-smokers. The Eigen

value of a relative index is based on the diagnostic power of each function that its value varies between 0 and 1. Conventional correlation indicates the degree of correlation of each function with diagnostic scores. Given that theThe quadratic power of focal correlation shows the percentage of variance explained by the dependent variable, and which in the present study, diagnostic function wasis about 12.6%.

Table 4. Standard, Non-Standard, Structural and Classification Coefficients of Discrimination Function by Family Resilience, Meaning of Life, and Differentiation

Predictor variables	Standard coefficients of the discriminant function	Non-standard coefficients of the function	Structural coefficient	classification coefficient of the discrimination function	
				Smokers	Non-smokers
Family Resilience	0.758	0.182	0.905	-0.334	0.339
Meaning of Life	0.084	0.018	0.637	-0.195	0.189
Differentiation	0.424	0.090	0.507	-0.253	0.253

Table 4 displays standard, non-standard, structural, and classification coefficients of discrimination function by family resilience, the meaning of life, and differentiation. As illustrated in this table, family resilience and differentiation have a greater share in predicting the considered groupings. In total, this diagnostic function was able to correctly classify 66.5% of all cases.

4. Discussion

The present study assessed the role of family resilience, meaning in life, and differentiation in making a distinction between smoker and non-smoker students in Ardabil University of Medical Sciences. The results of the discriminant analysis demonstrated that all three variables can help us to distinguish between smokers and non-smoker students.

Based on the findings of the present research, family resilience plays a significant distinguishing role between smoker and non-smoker students. The results are in accordance with the previous findings which pointed to a marked difference between addicted and non-addicted groups in terms of family resilience (26-28). Therefore, it can be stated that the way family members react, resulting from family cohesion and resilience, plays a critical role in discouraging family members from high-risk addictive behaviors in the face of life problems. On the contrary, families with low resilience do not respond appropriately to the abnormal behaviors of their members. Therefore, resilience and many other psychological structures are influenced by the family who can pass on empowering traits, such as resilience to its members. In disagreement with the

results of the current research, Babaei Nadinluei et al. (2019) reported that resilience had no significant relationship with addiction (29).

The other finding of the present study indicated that meaning in life plays a significant distinguishing role between smokers and non-smokers. The results are in line with the findings which showed that having a purpose and meaning in life makes people better able to cope with life anxiety and challenges and less likely to use avoidance-coping strategies (14, 30, 31). This hypothesis can be justified on the ground that medical students, who mainly work in important and emergency departments, are equipped with a sense of positivity and purpose in life and look at their education beyond the assigned tasks. Therefore, having a sense of meaning in life will help a person to face and accept hardships and anxieties by bestowing meaning to any suffering. On the other hand, a meaningless life can lead to addictive behaviors (13).

The last finding of the present study indicated that differentiation performs a significant distinguishing role between smokers and non-smoker university students. This result aligns with the previous studies that pointed to a difference in the degree of differentiation between the two groups of addicted and non-addicted people (32, 33). Therefore, it can be argued that poorly differentiated people have a negative attitude towards their abilities and lack the necessary skills to deal with life tensions since they did not find an opportunity to create an independent identity. This factor makes them unable to adopt appropriate coping strategies in the face of academic stress and other life stressors during their student years and increases their inclination for addictive

behaviors. In the present research, addictive behaviors were identified as a maladaptive strategy to regulate emotion and reduce stress and confusion (34).

Among the notable limitations of this study, we can refer to the use of self-report scales which might not be sufficient for the collection of accurate data. Moreover, this was a cross-sectional study; therefore, the correlation between the variables may be due to other variables which can only be controlled by the survey of the role of each one. Furthermore, since the present study was performed on the students of Ardabil University of Medical Sciences, caution should be exercised in generalizing the findings to other cities.

Conclusion

As evidenced by the results of the present study, family resilience, meaning in life, and differentiation played a significant role in distinguishing between two groups of smokers and non-smokers, pointing to a relationship between these variables and students' tendency to smoke. Therefore, it is important to devote assiduous attention to the role of family and meaningful life as a significant and preventive ground for psychosocial injuries by all health-related organizations.

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Conflicts of Interest

The authors declare that they have no conflict of interest.

References

1. Parami S, Tapak L, Moghimbeigi A, Poorolajal J & Ghaleiha A. Determining correlates of the average number of cigarette smoking among college students using count regression models. *Scientific Reports (Nature Publisher Group)*, 2020; 10(1). 1-10.
2. World Health Organization [WHO], Health for the World's adolescents: a second chance in the second decade. Geneva, Switzerland: WHO Document Production Services, 2014.
3. Jalilian, F. et al. Socio-demographic characteristics associated with cigarettes smoking, drug abuse and alcohol drinking among male medical university students in Iran. *Journal of research in health science*, 2015; 15(1), 42-46
4. Moor, I., Rathmann, K., Lenzi, M., Pfortner, T. K., Nagelhout, G. E., de Looze, M., & Richter, M. Socioeconomic inequalities in adolescent smoking across 35 countries: a multilevel analysis of the role of family, school and peers. *The European Journal of Public Health*, 2015; 25(3): 457-463.
5. Li Y, Qiao Y, Luan X, Li S & Wang K. Family resilience and psychological well-being among Chinese breast cancer survivors and their caregivers. *European journal of cancer care*, 2019; 28(2), e12984.
6. Walsh F. *Strengthening family resilience*. New York: Guilford Press, 2006.
7. Pinquart M. Moderating effect of dispositional Resilience on association between hassles and Psychological distress. *Journal of applied Developmental psychology*. 2009; 30(1): 1-8.
8. Cuomo, C., Sarchiapone, M., Di Giannantonio, M., Mancini, M., & Roy, A. Aggression, impulsivity, personality traits, and childhood trauma of prisoners with substance abuse and addiction. *The American journal of drug and alcohol abuse*, 2008; 34(3), 339-345.
9. Sadri Damirchi E, Dargahi Sh, GhasemiJobaneh R & Ayadi N. Role of perceived family resilience and emotion regulation in prediction of internet addiction of students. *Journal of school psychology*, 2020; 9(1): 229-239.
10. Çevik C, Çiğerci Y, Kılıç İ & Uyar S. Relationship between Smartphone addiction and meaning and purpose of life in students of health sciences. *Perspectives in Psychiatric Care*, 2020; 1-7.
11. Frankl VE. *The will to meaning: Principles and application of Logo therapy*. New York: World Publishing; 1969. Rowold, Jens. Effects of Spiritual Well-Being on Subsequent Happiness, Psychological Well-Being, and Stress. *J Relig Health*, 2011. 50(4):950-63.
12. Krause N. Evaluating the stress-buffering function of meaning in life among older people. *J Aging Heal*, 2007; 19(5), 792-812.
13. Testoni I, Russotto S, Zamperini A & De Leo D. Addiction and religiosity in facing suicide: A qualitative study on meaning of life and death among homeless people. *Mental illness*, 2018; 10: 1-15.
14. Csabonyi M & Phillips L J. Meaning in life and substance use. *Journal of Humanistic Psychology*, 2020; 60(1), 3-19.
15. Goldenberg, Herbert, and Irene Goldenberg. *Family therapy: An overview*. Cengage learning, 2012.
16. Church S, Bhatia U, Velleman R, Velleman G, Orford J, Rane A & Nadkarni A. Coping strategies and support structures of addiction affected families: A qualitative study from Goa, India. *Families, Systems, & Health*, 2018; 36(2), 216-224
17. Farrokhi N, Salimi Bajestani H & Mardani Rad M. Developing and Testing of the Causal Model of Students' Addiction Potential based on Distress Tolerance and Differentiation with the Mediating

- Role of Alexithymia. Research on addiction, 2020; 14(55), 29-46.
18. Thorberg FA, Lyvers M. Attachment, fear of intimacy and differentiation of self among clients in substance disorder treatment facilities. *J Addict Behav.* 2006; 31(4):732-7.
 19. Noroozi Chaharghaleh, P., Hashemi Azar, J., Sarami Forooshani, G. The comparison of neuropsychological function among emotionally abused and normal girl students. *Journal of Psychological Studies*, 2015; 11(2): 7-24.
 20. Sixbey M T. Development of the family resilience assessment scale to identify family resilience constructs. University of Florida. 2005.
 21. Steger M. F, Frazier P, Oishi S, Kaler M. The meaning in life questionnaire: Assessing the presence of and search for meaning in life. *Journal of counseling psychology*, 2006. 53(1): p. 80-93.
 22. Gharibi J, Gharibi H & Mohammadian K. A Comparison of Happiness, Meaning of Life and Psychological Hardiness in Fertile and Infertile Women in Sanandaj. *Woman and Family Studies*, 2016; 8(31): 103-116.
 23. Bapiri O, Kalantari M, Neshat Doost H T & Oreyzi Samani S HR. The Relationship between General Self-Efficacy, Belonging and Love and Meaning in Life through the Mediating of Social Values among Secondary school Girls. *Knowledge & Research in Applied Psychology*, 2020; 21(1), 20-30.
 24. Skowron E, Friedlander M. The differentiation of self inventory: development and initial validation. *Journal of Counseling Psycho*, 1998; 28: 235-46.
 25. Homaei R & Dasht Bozorgi Z. Correlation of self-differentiation and optimism with responsibility and marital satisfaction in nursing students. *Journal of health promotion management*, 2018; 7(2), 58-65.
 26. Hamdami M, Hakim Javadi M, Gholamali Lavasani M, Ghsemi Jobaneh R. Comparison of Family Resilience and Emotional Maturity between Dependent and Non-Dependent Men. *MEJDS*. 2017; 7 :13-13
 27. Agha S, Zia H, Irfan S. Psychological problems and family functioning as risk factors in addiction, *J Ayub Med Coll Abbottabad*. 2008; 20(3): 88- 91.
 28. Mohsenzadeh, F., Ghasemi Jobaneh, R., Dargahi, S., & Nikoo, S. J. Spiritual Health, Family Hardiness and Family Satisfaction: A Comparison between Addicts and Non-addicts. *Journal of Research on Religion & Health*, 2018; 4(4): 33-43.
 29. Babaei Nadinluei K, Gol Mohammadzadeh S, Shirzad B, Shirzadpour A, mazdarani Shahzad. Psychological coping strategies and tendency to addiction among adolescents: The role of moderating resilience and the ability to tolerate ambiguity. *Journal of Clinical Psychology & Personality*, 2019; 17(1): 191-202.
 30. Salmabadi, M., Sadeghbojd, M. F., Farshad, M. R., & Zolfaghari, S. Comparing the spiritual health and quality of life in addicted and non-addicted patients in the city of Birjand, Iran. *International journal of high risk behaviors & addiction*, 2016; 5(1).e23208.
 31. Dehdari T, Yarahmadi R, Taghdisi MH, Daneshvar R, Ahmad Poor J. The Relationship between Meaning in Life and Depression, Anxiety and Stress Status among College Students of Iran University of Medical Sciences in 2013. *Health education and health promotion*, 2013; 1(3): 83-92.
 32. Moghanloo M, Kolivand Z. Comparison of Differentiation of Self and Cognitive Self-Control between Addicts with a Successful Withdrawal Attempt and Drug Dependent Individuals. *Research on Addiction*, 2018; 12(46): 101-120.
 33. Lu-Ying, N. I. U. The Mediating Role of Self-differentiation in the Relationship between College Students' Cell Phone Dependence and Family Function. In 4th Annual International Conference on Social Science and Contemporary Humanity Development (SSCHD 2018). Atlantis Press. 2019; 281: 1-5.
 34. Ayadi N, Pireinaladin S, Shokri M, Dargahi S & Zarein F. Investigating the Mediating Role of Procrastination in the Relationship between Positive and Negative Perfectionism and Mobile Phone Addiction in Gifted Students. *Iranian Journal of Psychiatry*, 2021; 16(1), 30.