

## Students' Smoking Abstinence Self-efficacy toward Early Maladaptive Schemas

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### ABSTRACT

**Introduction:** Smoking abstinence self-efficacy is a factor that plays a key role in preventing addiction or its revival tendency after quitting. This study attempted to analyze the relationship between the early maladaptive schemas and smoking abstinence self-efficacy among the sophomore high school students in the city of Gorgan, Iran.

**Methods:** This was a descriptive study and its population (n= 9955) included all second grade high school students in the city of Gorgan in the school year 2015-2016. The multi-stage cluster sampling method was used to select 369 participants. The required data were collected using the maladaptive schema questioners and the smoking abstinence self-efficacy questionnaire. Pearson correlation and Multi-variable regression methods were also used to analyze data.

**Results:** The results of the current study indicated a significant, yet reverse relationship of the early maladaptive schemas with smoking abstinence self-efficacy. Furthermore, 51 percent change in self-efficacy variance is derived from the components of early maladaptive schemas. Among components of the early maladaptive schemas, components of the abandonment / alienation, the strongest predictor was students smoking abstinence self-efficacy.

**Conclusion:** Early self-efficacy schemas are among the individual and psychological causes with especial importance in studies on smoking dependency and its consumption. Such early schemas lead to biases in an individual's interpretation of the events. These biases are represented as distorted attitudes, false speculations, unrealistic aims and perspectives, and high-risk behaviors such as smoking.

**Keywords:** Adolescent, Schemas, Self Efficacy, Smoking, Students

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### Introduction

Tobacco use is one of the most malicious public health threats the world has ever faced. According to the World Health Organization (WHO) estimates, the number of deaths from smoking will rise to over 10 million people by 2030. Despite the popular effects of smoking on health, many young people are addicted to this high-risk behavior and still continue smoking. This high prevalence of smoking among adolescents and young adults is inevitably followed by the risk of its dependence and will have negative consequences on their health (1-2). One of the main variables in determining how individuals respond to the environment is the concept of self-efficacy. Bandura defined self-efficacy as "conviction and confidence of a person to behave in such a successful way to achieve the desired results" (3). Self-avoidance or efficacy of coping strategies refers to trust one's personal ability in avoidance of substance abuse in situations of pressure and problematic points. It is also one of the early predictors of abstinence and withdrawal of drugs (4).

Self- efficiency reflects the teens' belief in their ability to resist against social pressure to use drugs. According to this view, even if the teens do not have a plan to consume drugs, they may use them mainly due to lack the necessary skills for refusing peer pressure. Robinson and Walsh<sup>2</sup> showed that teens who always avoid addictive substances have better and more effective coping strategies<sup>3</sup> than others. In another research, the results indicated that poor efficacy often leads to materials' abuse among students. In addition, Mc Lare et al. in a study on issues related to alcohol consumption, depression, impulsivity, avoidance coping, and peer social support found out that alcohol consumption could be a predictor of self-efficacy in drug consumers (5).

Today, different views, with the aim of reducing smoking or leaving it, are developed and most of them are based on behavioral changes in smokers. The most important theories, which have attempted to look for a deeper understanding and explanation of addiction and drug abuse are

biological-genetic, psycho-analytic, behavioristic approaches along with comments on socio-cultural and socio- cognitive foundations, and social learning theory (6).

From these perspectives, what remains important in the examined issue in this study is the learning theory including socio-cognitive and social learning approaches. In such approaches, it is believed that human behaviors are acquired; they are not results of the genetic factors. Problematic behavior, including risky thoughts and feelings, as well as physiological evolutions can be modified and altered with the same learning processes, which have created them. In other words, these theories focus on the belief that addictive behaviors are a bunch of bad habits that can be modified and changed (7).

In a longitudinal study, Boardman, Catley, Mayo, & Alhuwalia (8), evaluated self-efficacy and motivation in a six-month smoking cessation treatment program. The results showed that smokers who failed in the treatment had reported lower self-efficacy and motivation than those who passed it successfully.

In another longitudinal study, Chang, et al. (9) analyzed the role of social impacts and efficacy as effective predictors of smoking abstinence self-efficacy among Taiwanese high school students. The findings showed that these two components play a key initial role in quit of smoking. Furthermore, Momoh, Imhond, and Omagbe (3) studied the role of gender, efficacy, age, and extroversion on smoking behavior among Nigerian students. The results showed a significant difference between smoking habits among men and women. In addition, the efficacy was significant in terms of people's attitudes toward themselves and their abilities in smoking. Zhang and Ho (10) argue that early stereotypes, i.e., beliefs that people have about themselves, others, and their environment, typically originate from unfulfilled basic needs, especially emotional needs, in childhood. In fact, these early maladaptive schemas, which persist throughout lifetime are constant and form the foundations of

cognitive structures. These schemas help people to organize their experiences about their surrounding world and to process the incoming information. One of the leading theories in the field of schemas is T. E. Young's maladaptive schema theory.

In his theory, Young (11) introduced 15 schemas, which are the result of five main unmet emotional needs including need to join and acceptance, autonomy, competence and identity, freedom to express normal needs and emotions, self-expression, spontaneity, fun, and inner orientation. Young believes that early maladaptive schemas lead to negative life experiences in people; as a consequence, such events are observed in an individual's life, excessive psychological stress, and life dissatisfaction. Those who use these maladaptive schemas excessively are more affected by the negative events of daily life (12). Moreover, cognitive schemas are components with deep effects on drug tendency. Here, the schema is considered as an abstract map used for information interpretation and problem solving (13). On the other hand, Young et al. (14) believe that early maladaptive schemas appear through maladaptive coping ways such as defectiveness (shame), avoidance (truancy), and excessive compensation (war). Activation of the early maladaptive schemas leads to cognitive dissonance; therefore, drug abuse is a maladaptive coping method used by people to deal with their cognitive dissonance.

In their studies Shorey, Anderson, & Stuart (15) and Shorey, Stuart, Anderson & Strong (16) found evidences that people having disorders in alcohol abuse suffered from early maladaptive schemas. According to theoretical and research findings, it can be concluded that schema structure is one of the key concepts that affect students' self-efficacy in avoiding smoking. Considering the above, the basic issue of the present study was to examine the relationship between early maladaptive schemas and self-efficiency among the second year high-school male students in the city of

Gorgan. In this regard, the following hypotheses were raised:

- A relationship exists between early maladaptive schemas and smoking abstinence self-efficacy among the second-grade high school male students in the city of Gorgan.

## Methods

### *Statistical population:*

This descriptive study was performed in Gorgan city, Iran. The population (n= 9955) included all high school second- grade students in the academic year 2015-2016.

### *Sampling and sampling method:*

A stratified random sampling method, the Krejcie and Morgan's table, was used to select the participants, resulting in a sample size of 369. The Pearson correlation and multivariate regression methods were also used to analyze the data. In this study, moral considerations, such as conscious satisfaction of individuals to participate in the research and the principle of confidentiality and secrecy were observed.

*Instruments:* In this study, two tools were used:

### *A. Young' Schema Questionnaire- Short Form (SQ-SF)*

This 75-item questionnaire was developed by Young (17) to evaluate 15 maladaptive schemas. These schema include: 1) Emotional Inhibition, 2) abandonment/ alienation, 3) Bad abusive behavior, 4) social isolation / alienation, 5) defectiveness/ shame, 6) failure, 7) dependence/ incompetence, 8) vulnerability to accident or illness, 9) involvement/ underdevelopment, 10) obedience, 11) sacrifice, 12) emotional deprivation, 13) unrelenting standards, 14) entitlement/ grandiosity, and 15) inadequate self-control / self-discipline. Each question is scored on a scale of 6 points (1 = absolutely false, 6 = absolutely true). In this questionnaire, every 5 questions measure a schema. The mean of greater than 25 for a sub-scale shows that the scheme is inefficient. The reliability and validity of these tools were confirmed in numerous investigations (18). Standardization of the questionnaire was conducted in Iran by Ahi et al., in Tehran

universities. The Cronbach's alpha, the internal consistency rates were 0.98 and 0.97 for male and female population. Cronbach's alpha coefficient in this study was 0.94.

### *B. Smoking abstinence self-efficacy questionnaire*

The test was designed by Ebrahimi et al. (19). This 52 –question test included 2 dimensions (internal and external) and 8 components (positive emotions, negative emotions, excitement, relaxation, interpersonal relationships, professional status, situational status, and limiting smoking locations). The questionnaire scoring method was designed to answer this question: "How confident I am sure to resist against the temptation of smoking, when ...?". The items should be answered on a 5 - point Likert scale (not at all certain to completely sure) with scores of 1 to 5. The individual's total score of Smoking abstinence self-efficacy, obtained from 52 questions, ranged from 52 to 260 and no reverse negative score was observed in this regard. Questions 1 to 8 are concerned with the internal aspect and the component of positive emotions, 9 to 21 deal with the internal aspect and the component of negative emotions, 22 to 25 investigate the inner dimension and the component of relaxation, 26-30 deal with the inner dimension and the component of emotions, 31 to 37 and 40 to 43 represent the external dimension and the component of interpersonal relationships, items 38 and 39 deal with the external dimension and the component of professional status, 44 to 50 indicate the external dimension and the component of spatial position, and finally, questions 51 and 52 deal with the external aspect and the limiting conditions of smoking. To assess validity, the concurrent validity of the general self-efficacy beliefs'

questionnaire was used. General Self-Efficacy Scale (GSE), designed by Juraslim and Oscars in German in 1979, was translated into 26 other languages. In 1996, it was translated by Nezami, Juraslim, and Oscars into Persian. Moreover, to assess the validity of the analysis method (exploratory factor analysis using varimax rotation), concurrent validity method was used. In addition, the confirmatory factor analysis was approved using LISREL software and based on the reform indices proposed by LISREL. Cronbach's alpha coefficient method was also reported as 0.96 for assessing and reporting the reliability of the questionnaire by its designers (19).

### **Results**

To attain the main objectives of the present study, the collected data were subjected to a number of statistical analyses using Statistical Package for Social Sciences (SPSS 21.0) Apart from this, descriptive statistics, Pearson's correlation, and multiple regression analyses were also employed in this study.

#### **Descriptive Statistics**

Table 1 indicates the means and standard deviations for all the observed variables. The descriptive statistics was worked out to show the pattern of the score distribution. A perusal of Table 1 reveals that the mean score for Early Maladaptive Schemas is 209.59, with the SD of 21.426. The Smoking Abstinence Self-efficacy's mean score is 40.76 with the SD of 5.196. Table 1 shows the mean and standard deviation of the Early Maladaptive Schemas sub-scales. (See Table 1).

**Table 1.** Mean and standard deviation of early maladaptive schemas and smoking abstinence self-efficacy:

Variables	Mean	Std. Deviation
Early Maladaptive Schemas	239.59	21.426
Emotional Inhibition	14.44	5.02
Abandonment/ Alienation	17.29	5.430
Bad abusive behavior	16.14	4.006
Social Isolation/ alienation	14.79	5.532
Defectiveness / Shame	13.79	4.532
Failure	16.64	4.819
Dependence / Incompetence	15.01	4.130
Vulnerability to Accident	14.16	5.542
Involvement / Underdevelopment	15.36	4.031
Obedience	16.42	3.831
Sacrifice	12.90	5.90
emotional deprivation	15.61	4.856
Unrelenting Standards	16.98	4.386
Eentitlement / Grandiosity	17.51	4.386
Inadequate Self-control/ self-discipline	16.46	3.986
Smoking Abstinence Self-efficacy	40.76	5.196

Not. N= 369

### Correlations

The statistical analysis was conducted in SPSS version 13. The statistical method used in this research was descriptive statistics test. In order to check the normal distribution of quantitative variables, the Kolmogorov-Smirnov test was applied. Pearson correlation method and Multi-variable regression were also applied to analyze the data.

Correlations between variables were computed through Pearson's Correlations method, which aimed at examining the degree of association between the measures of Early Maladaptive Schemas scale and sub-scales as well as Smoking abstinence self-efficacy scale. The findings, as depicted in Table 2, showed a negative significant

relationship between students' total Early Maladaptive Schemas ( $r = -.51^{**}$ ,  $p < .01$ ), emotional inhibition ( $r = -.33^{**}$ ,  $p < .01$ ), abandonment / alienation ( $r = -.45^{**}$ ,  $p < .01$ ), bad abusive behavior ( $r = -.43^{**}$ ,  $p < .01$ ), social isolation/ alienation ( $r = -.30^{**}$ ,  $p < .01$ ), defectiveness / shame ( $r = -.19^*$ ,  $p < .05$ ), failure ( $r = -.38^{**}$ ,  $p < .01$ ), dependence / incompetence ( $r = -.42^{**}$ ,  $p < .01$ ), vulnerability to accident or illness ( $r = -.18^*$ ,  $p < .05$ ), involvement / underdevelopment ( $r = -.38^{**}$ ,  $p < .01$ ), obedience ( $r = -.41^{**}$ ,  $p < .01$ ), sacrifice ( $r = -.16^*$ ,  $p < .01$ ), emotional deprivation ( $r = -.36^{**}$ ,  $p < .01$ ), unrelenting standards ( $r = -.30^{**}$ ,  $p < .01$ ), entitlement / grandiosity ( $r = -.37^{**}$ ,  $p < .01$ ), inadequate self-control / self-discipline ( $r = -.37^{**}$ ,  $p < .01$ ), and their Smoking abstinence self-efficacy.

**Table 2.** The correlation matrix of variables

Dependent Variable	Independent Variable	r	P
Smoking abstinence self-efficacy	Early Maladaptive Schemas	-.51 <sup>**</sup>	.000
	Emotional Inhibition	-.33 <sup>**</sup>	.001
	Abandonment/ Alienation	-.45 <sup>**</sup>	.000
	Bad abusive Behavior	-.43 <sup>**</sup>	.000
	Social Isolation/ Alienation	-.30 <sup>**</sup>	.002
	Defectiveness/ Shame	-.19 <sup>*</sup>	.004
	Failure	-.38 <sup>**</sup>	.001
	Dependence/ Incompetence	-.42 <sup>**</sup>	.001
	Vulnerability to accident	-.18 <sup>*</sup>	.004
	Involvement/underdevelopment	-.38 <sup>**</sup>	.001
	Obedience	-.41 <sup>**</sup>	.001
	Sacrifice	-.16 <sup>*</sup>	.004

Emotional Deprivation	-0.36**	.001
Unrelenting Standards	-0.30**	.002
Entitlement/ grandiosity	-0.37**	.001
Inadequate self-control	-0.37*	.001

\*\* p < .01, \* p < .05, N= 369

**Multiple Regression Analysis (MRA)**

To assess the importance of each predictor on the overall relationship, MRA was used with little ambiguity. Tables 3 shows the results of the multiple regressions, indicating the impact of the Early Maladaptive Schemas dimension on Smoking abstinence self-efficacy. The MRA results for the Predictivity of Early Maladaptive Schemas Sub-scales on Smoking abstinence self-efficacy are presented in Table 3.

The findings show that the MRA indicates that the Early Maladaptive Schemas sub-scales are significant predictors for Smoking abstinence self-efficacy ( $R^2 = .41$ ,  $F = 8.663$ , and  $p < .05$ ).  $R^2$  value shows that 41% of the variance in Smoking abstinence self-efficacy decrease is explained by

Early Maladaptive Schemas sub-scales.

Based on the results of the MLR model in the Gis study, the sub-scales Abandonment/ Alienation (X2), bad abusive behavior (X3), dependence / incompetence (X7), obedience (X10), Inadequate self-control (X15), failure(X6), involvement / underdevelopment (X9), entitlement / grandiosity (X14), emotional deprivation (X12), Emotional Inhibition (X1), social isolation / alienation (X4), and unrelenting standards (X13) show significant contributions toward the prediction of Smoking abstinence self-efficacy ( $bX2= -5.977$ , ( $bX3= -5.781$ , ( $bX7= -5.431$ , ( $bX10= -4.788$ , ( $bX15= -4.748$ , ( $bX6= -4.547$ , ( $bX9= -4.517$ , ( $bX14= -4.247$ , ( $bX12= -3.987$ , ( $bX1= -3.834$ , ( $bX4= -3.431$ , and  $bX11= -2.984$ ).

**Table 3.** Results of multiple regression analyses (enter)

Dependent Variables	Predictors	R <sup>2</sup>	F	β	t	p
Smoking abstinence self-efficacy	(constant)	-.41	8.663		24.271	.000
	Emotional Inhibition			-.289	-3.834	.000
	Abandonment / Alienation			-.330	-5.977	.000
	Bad abusive behavior			-.328	-5.781	.000
	Social isolation / Alienation			-.201	-3.431	.004
	Defectiveness / Shame			-.029	-1.487	.212
	Failure			-.311	-4.547	.001
	Dependence / Incompetence			-.325	-5.431	.000
	Vulnerability to accident			-.032	-1.685	.194
	Involvement / Underdevelopment			-.310	-4.517	.001
	Obedience			-.322	-4.788	.001
	Sacrifice			-.030	-1.635	.201
	Emotional deprivation			-.294	-3.987	.002
	Unrelenting standards			-.119	-2.984	.004
	Entitlement / Grandiosity			-.301	-4.247	.001
	Inadequate self-control			-.312	-4.748	.001

N= 369

**Discussion**

This research aimed to examine the relationship between early maladaptive schemas and efficacy of tendency to smoking among the second grade high school students in the city of Gorgan. The results

showed a significant negative relationship between early maladaptive schemas and Smoking abstinence self-efficacy in students.

According to the findings, the early maladaptive schema is the detriment of smoking.

These schemas are related to areas such as isolation and alienation, disruptive restrictions, disrupted autonomy or performance, and others orientations. It can be concluded that people addicted to smoking and drug abuse are more vulnerable in these four areas. These findings were in line with those reported by Decovier (20).

The schema of mistrust/ abuse, which is related to the area of abandonment / alienation, normally occurs in families who are heartless, cold and withholding, isolated, short-tempered, and unpredictable or ill-treating (Yang et al., 2003, translated by Hamid Pour and Anduze, 2007)(21). The results showed that individuals with mistrust/ abuse tend to smoking and material abuse; hence, it can be deduced that since these people believe that others harm them, they become bad-tempered and make their family members ashamed. As a result, while facing a problem, they cannot trust other people. So, to achieve peace, they are inclined toward smoking, drugs, or alcohol.

On the other hand, this sense of dependence/ incompetence, which is a predictor of smoking, is also related to the area of defected autonomy or impaired performance. The schemas of this area are normally created in families that decrease their children's self-confidence or offer them excessive protection (13). Individuals with active schema of dependence/ incompetence believe that they are unable to do their daily responsibilities. This feeling often appears in the form of learned distress, leads to confusion and anxiety, and finally ends in smoking in order to alleviate distress. The schema of obedience, which is related to orientation, is caused in the family and accepts the child with reservation.

According to Young et al. (13), people with active obedience scheme feel forced in radical transfer of their control to others. This scheme often manifests its extreme form along with excessive sensitivity to the feelings of others. Generally, it leads to anger, which is in the form of a series of maladaptive symptoms such as passive aggressive behavior, uncontrolled emotional outbursts, and psychosomatic symptoms, withdrawal of affection, outsourcing management,

smoking, and drug abuse. The scheme of inadequate self-control / self-discipline is related to disruptive restrictions. This area normally occurs in families mostly characterized by confusion or a sense of superiority rather than by a sense of discipline, proper exposure, and logical limitations. People with this active scheme do not tolerate failure, strictly avoid discomfort, and prevent conflict in all possible ways.

In the cases of facing problems, such families deal emotionally with the challenge, rather than using a problem-oriented approach. They always seek to avoid conflicts by smoking and using drugs. Finally, those with inadequate self-control/ self-discipline schema have no tolerance to achieve personal goals or are unable to express their emotions and impulses (21). Finally, they cannot bear pain and take it easy, so they are evasive of responsibility (22). Lack of frustration tolerance is the factor that can be effective in smoking and substance abuse.

In terms of the schemas of impaired autonomy and function (such as undeveloped/ caught self), it can be explained that these people had parents, who reduced their confidence from early childhood, offered them over-protection, failed to encourage children to do things out of the house, or were unable to strengthen them in cases of failure in different situations. As a result of most of these schemas, individuals feel entitlement / grandiosity in various situations. So, they become anxious and are easily irritated in dealing with different situations. The only remedy for them will be using drugs and smoking.

Moreover, regarding the schema of entitlement/ grandiosity and inadequate autonomy/ self-discipline, which are in the area of disruptive inhibitions, it can be stated that individuals with such schema often seem egotistic, irresponsible, and fractious. Most of them are grown up in big families, which have been too kind or welcoming. As a result, these people do not follow the rules and seek to satisfy their early momentum needs such as smoking.

## Conclusion

According to research findings, it can be concluded that schema structure is one of the

key concepts that affect students' self-efficacy in avoiding smoking. In deed, early self- efficacy schemas are among the individual and psychological causes with especial importance in studies on smoking dependency and its consumption. Such early schemas lead to biases in an individual's interpretation of the events. These biases are represented as distorted attitudes, false speculations, unrealistic aims and perspectives, and high- risk behaviors such as smoking.

### Research limitation

As a limitation of this study, the participnats were selcetde from the city of Gorgan, so the results cannot be generalized to other cities. Another limitation is that the participants included just the second- grade high school male students; so, it is difficult to generalize the findings to female students. Moreover, lack of attention to psychological variables, parents' educational status, and economic status of the students are among other limitations of this research that affect the generalizability of the findings. Depending on

the frequency of drug consumption among teenagers, conducting psychological research over such social damage can be significant contributions to the prevention of smoking in adolescents. It is recommended to plan and promote therapy schema educational programs as well as self-efficacy skills and empathy in schools and families by psychologists and counselors.

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### Conflict of Interest

The authors declare that they have no conflicts of interest.

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