The Relationship between Extrinsic and Intrinsic Religious Orientation with Perceived Stress and Cigarette Addiction among University Students

Nabi Banazadeh1, Abdolreza Sabahi1, Hasan Ziaadini1, Arash Jalali-Khalilabadi2, Mohammad Banazadeh3

Abstract

Background: Psychological stress is associated with unhealthy lifestyles, including smoking. Moreover, religious beliefs can play a significant role in relieving mental disorders such as anxiety and stress. Due to the frequent exposure of medical students to stressful situations, this study was conducted with the aim to investigate the relationship of internal and external religious orientation with perceived stress and nicotine dependence.

Methods: This correlational study was carried out on medical students of Kerman University of Medical Sciences, Kerman, Iran, in 2015. The sample size was determined to be 224 individuals using the Morgan table. The participants were selected using stratified random sampling. The data collection tools consisted of a demographic information form, the Religious Orientation Scale (ROS) (Allport and Ross), the Perceived Stress Scale (PSS-14), and the Fagerstrom Test for Nicotine Dependence (FTND). Data were analyzed using multiple regression analysis, analysis of variance (ANOVA), Pearson correlation coefficient, and t-test in SPSS software.

Findings: The findings of the study showed that internal religious orientation had a significant negative relationship with perceived stress and nicotine dependence; however, no significant relationship was observed between external religious orientation and these variables.

Conclusion: Based on the results of the study, it can be concluded that the religious beliefs of individuals have a preventive role in perceived stress and nicotine dependence.

Keywords: Religious beliefs; Psychological stress; Medical students; Nicotine dependence


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Introduction

Stress includes the chemical, mental, and emotional reactions experienced as a result of the changes and needs of the individual’s life. Stress as a psychological phenomenon is one of the most important factors in the incidence and continuation of numerous psychiatric disorders. In other words, stress is any type of stimulus or change in the internal and external environment that may impair vital balance, and may be pathogenic in special circumstances. Thus, in recent years, stress and its coping strategies in different groups, especially those suffering from various mental and physical illnesses, have received much attention. It has also been shown that the use of coping strategies reduces stress and prevents chronic physical disorders. Mental stress has been associated with a 1.5 to 2.5 times increase in mortality rate. According to available evidence, this increase in mortality is due to the link between stress and its resulting unhealthy lifestyle. Unhealthy lifestyle includes inappropriate nutrition, inadequate physical activity, smoking, and inability to cope with stress. Nicotine in cigarettes modulates stress temporarily.

Religious beliefs are among the factors that can be effective in preventing and reducing mental disorders, as well as reducing problems, such as suicide, addiction, depression, stress, and anxiety. Religious beliefs lead to improved health and quality of life (QOL), and increased self-esteem. In the area of character and social psychology, Allport and Ross divided individuals into two groups of internal orientation and external orientation based on their religious orientation. They stated that individuals with external orientation theoretically have religious beliefs, and religion will be the tool for satisfying the individual's basic needs. In contrast, individuals with an internal religious orientation internalize religious values and consider religion as a goal. In other words, the external religious orientation refers to objective, real, and measurable behaviors arising from religious beliefs. People with internal religious orientation experience feelings of comfort, security, usefulness, and self-improvement; in other words, individuals with an internal religious orientation live in harmony with their religious beliefs, which results in greater security and social stability. Given this categorization, Allport and Ross assumed that external religion has a lower therapeutic and preventive aspect compared to internal religion.

Various studies have examined the rate of nicotine dependence among students (11% in Kerman in 2010; 6.2% in Golestan in 2008; 21.5% in Kerman University of Medical Sciences, Kerman, Iran, in 2007; 5% in Tehran University of Medical Sciences, Tehran, Iran, in 2007; 9% in Hormozgan University of Medical Sciences, Bandar Abbas, Iran, in 2007; 7.4% in Ardabil University of Medical Sciences, Ardabil, Iran, in 2005). In addition, in the most recent study carried out in Kerman University of Medical Sciences, the prevalence of nicotine dependence was 15.8%. Based on a study by Moosazadeh et al., the prevalence of smoking in Iran (with a definition similar to that in this study) was estimated to be 19.8% and 0.8-1.1% among men and women, respectively, which can be rooted in cultural issues. Moreover, in the study by Fayazbakhsh et al., female students had more knowledge and negative attitudes toward smoking. In a study by Nasirian et al., the rate of smoking among boys and girls was, respectively, 25.4% and 6.3%.

Watson et al., in their study in the United States, divided individuals according to their internal and external orientation, and found that only in limited cases health status was related to external orientation. In their study anxiety, depression, and perceived stress were strongly and inversely correlated with internal orientation. In a study by Pollard and Bates in the United States, after a period of exposure of the subjects to multiple environmental stressors, the results indicated that perceived stress was negatively correlated with internal orientation, and no relationship was observed with external orientation. In both studies conducted by Steffen and Masters, internal orientation was associated with positive psychological consequences, which was significantly and negatively associated with depression and perceived stress.

In a study on 571 students of Azad Shahr University, there was a significant relationship between religious orientation and anxiety and depression reduction. Moreover, in a study on 715 people in Isfahan, a significant relationship was reported between depression and anxiety and religious orientation; there was a significant negative correlation between internal religious
orientation and anxiety and depression, and a non-significant positive correlation between external religious orientation and anxiety and depression.\textsuperscript{18} In a study by Baker and Gorsuch, there was also an inverse significant relationship between anxiety and internal orientation and a direct non-significant relationship between anxiety and external orientation.\textsuperscript{19} In the study conducted by Ng and Jeffery, perceived stress had a relationship with higher consumption of cigarettes and lower rate of smoking cessation, high-fat diets, and lower exercise rate.\textsuperscript{20} The results of this study showed a significant difference in perceived stress score between smokers and non-smokers.\textsuperscript{21} In the study by Masters and Knestel in the United States, there was an inverse relationship between internal religious orientation and cigarette and alcohol addiction.\textsuperscript{22}

Medical students, in addition to stresses related to the academic environment, also encounter various stresses in hospital circumstances. These stresses not only can result in academic failure, but also lead to a tendency towards smoking and mental health problems, hence causing problems in the delivery of health care services. Due to this issue and the lack of similar studies in Iran, the authors investigated the relationship between religious orientation and perceived stress and smoking. The result of this study can be utilized in conducting religious and mental planning and mental health education programs, including stress control, for medical students. This can be justified by the impact of internal and external religious orientation.

### Methods

This was a descriptive correlational study. The statistical population of the study consisted of all students (n = 572) of Kerman University of Medical Sciences. The sample size was determined to be 224 individuals using the Morgan table. The participants (basic sciences and physiopathology, trainees, and interns) were selected using stratified random sampling. In this study, the Religious Orientation Scale (ROS), Perceived Stress Scale (PSS), and Fagerstrom Test for Nicotine Dependence (FTND) were used to collect data.

**ROS:** The ROS (Allport and Ross) consists of 21 questions; questions 1 to 12 and questions 13 to 21 measure external religious orientation and internal religious orientation, respectively. The questions of the questionnaire are scored based on a 5-point Likert scale.\textsuperscript{6} The validity of the questionnaire was reported as good in various studies and its reliability was reported as 0.84 using Cronbach's alpha method.\textsuperscript{23}

**PSS:** The PSS (Cohen et al.) includes 14 questions that measure the overall perceived stress of a person in the past month. The questions of the questionnaire are scored on a 5-point Likert scale. The validity of the questionnaire was reported as good in various studies and its reliability was reported as 0.86 using Cronbach's alpha.\textsuperscript{24}

**FTND:** The FTND consists of 6 questions. Based on a question of this questionnaire, if a person smokes at least 1 cigarette daily, he or she is a smoker. This questionnaire examined the time of morning smoking, the number of cigarettes smoked, the best cigarette of the day, the frequency of cigarette smoking per day, the tendency to smoke during an illness, and smoking in prohibited places. Finally, a total score of 0-2, 3-4, 5-6, 7, and 8, showed very low dependence, low dependence, moderate dependence, high dependence, and very high dependence, respectively.\textsuperscript{25} The validity of the questionnaire was reported as good in various studies, and its reliability using Cronbach's alpha method was reported as 0.89.\textsuperscript{26}

The collected data were analyzed using multiple regression analysis, analysis of variance (ANOVA), Pearson correlation coefficient, and t-test in SPSS software (version 20, IBM Corporation, Armonk, NY, USA).

### Results

Among the 244 students, 110 (45.1%) and 134 (54.9%) were men and women, respectively. The highest percentage of father's level of education was related to bachelor's and Ph.D. degrees with a prevalence of 41.8% and 17.6%, respectively, and the lowest percentage was related to elementary education with 0.8%. In addition, none of the subjects had an illiterate father. The highest percentage of mother's education was related to bachelor's and Ph.D. degrees (46.3%) and diploma (19.7%), and the lowest percentage was related to illiterate (0.8%).

Most of the students (90.2%) were single and the majority of the students (58.6%) lived with
their families. The income of most of the students’ families (66.8%) was more than one million and five hundred thousand toman.

The results of descriptive statistics of variables are presented in Table 1. The results showed that 14.8% and 57.0% of the students had low and high external religious orientation, respectively. Similarly, 59.0% and 41.0% of the students presented low and high internal religious orientation, respectively. Furthermore, 55.7% and 44.3% of the students had, respectively, low and high perceived stress level. Moreover, 10 (4.1%) students were smokers.

According to the results of Pearson test, there was a negative and significant relationship between external religious orientation and perceived stress (P = 0.023), and internal orientation and perceived stress (P < 0.001).

Regarding the P-values calculated in the regression test, it can be stated that internal religious orientation (P < 0.001) predicts -0.26 of student’s perceived stress. However, external religious orientation was not a predictor of perceived stress. Given that the value of $R_{adj}^2$ (adjusted $R^2$) was 0.080, all variables entered into this model explained 8% of the variance in the perceived stress variable (Table 2).

Based on the results of Pearson test, there was no significant relationship between external religious orientation and nicotine dependence (P = 0.827), but there was a negative and significant relationship between internal religious orientation and nicotine dependence (P = 0.020).

Regarding the P-values calculated in the regression test, it can be stated that internal religious orientation (P = 0.010) predicts (-0.155) the rate of students’ dependence on cigarettes, but external religious orientation does not predict the rate of this variable. Given that the value of $R_{adj}^2$ (adjusted $R^2$) was 0.016, all variables entered into this model explained 0.016% of variance in the nicotine dependence variable (Table 3).

In addition, analysis of data using Pearson test showed that there was a positive and significant relationship between perceived stress level and nicotine dependence in the study group (P = 0.003).

The difference in the mean values of external and internal religious orientation, perceived stress, and nicotine dependence between male and female students was not statistically significant. The difference in the mean values of external religious orientation (P = 0.009) and internal religious orientation (P < 0.001) was statistically significant in terms of place of residence among the students. Students residing in rental houses and the dormitory had a higher religious orientation. The difference in the mean values of external and internal religious orientation and perceived stress between married and single students was not statistically significant.

The difference in the mean values of perceived stress (P = 0.020) among the students was statistically significant in terms of place of residence. Students living in the dormitory had higher perceived stress level.

The difference in the mean values of nicotine dependence among students was not statistically significant in terms of place of residence and marital status.

### Discussion

According to Allport and Ross, among

<table>
<thead>
<tr>
<th>Variable</th>
<th>Estimation coefficient</th>
<th>Standard error</th>
<th>Standard estimation coefficient</th>
<th>T</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>External religious orientation</td>
<td>-0.11</td>
<td>0.071</td>
<td>-0.105</td>
<td>-1.68</td>
<td>0.094</td>
</tr>
<tr>
<td>Internal religious orientation</td>
<td>-0.27</td>
<td>0.066</td>
<td>-0.26</td>
<td>-4.17</td>
<td>&lt; 0.001</td>
</tr>
</tbody>
</table>
with external religious orientation, religion is a means for meeting their basic needs; however, individuals with internal religious orientation consider religion as their goal. In other words, in external religious orientation, religion is used for non-religious purposes (such as coping with problems and improving life); however, in internal religious orientation, religion is used as a framework for social life. The positive role of religious beliefs in mental health has been demonstrated in several studies. Allport explains that religious attitudes are used as a mechanism to evaluate stressful environmental events and in relation to them, and it can be therefore concluded that having an internal religious orientation contributes to individual perceptions of stressful situations and coping with stressful conditions.

The results of the study showed that internal religious orientation reduced students’ perceived stress and tendency towards smoking, while there was no such relationship between external religious orientation and perceived stress and nicotine dependence. It can be stated that people with a stronger internal religious orientation can better moderate stressors and be immune to its side effects such as nicotine dependence.

Different studies have reported higher perceived stress among women compared to men, and in general, lower level of perceived stress among married individuals. In the study by Omoniyi and Ongunsanmi among university staff in Nigeria, there was no significant relationship between gender and marital status with respect to perceived stress. In the study by Al-Sowygh among students of dentistry in Saudi Arabia, perceived stress was higher among women than men and among married individuals than single individuals. In the study by Feizi et al. in Isfahan, perceived stress was higher in women than in men, and a difference was not observed between married and single individuals. Regarding the relationship between perceived stress and marital status, the results of this study were consistent with the results of the studies by Feizi et al. and Omoniyi and Ongunsanmi. In addition, regarding the relationship between perceived stress and gender, the results of this study were in line with the study by Omoniyi and Ongunsanmi.

There was not a significant relationship between external and internal religious orientation and gender in the study by Bayani, which was in line with the current study. Moreover, there was no significant difference between married and single individuals in terms of internal and external religious orientation in the present study. In the study conducted by Aghvami et al., there were no differences between married and single individuals in terms of religious orientation, and the results of this study were consistent with those of the current study.

In this study, the prevalence of smoking dependence was 4.1%, 100% of which was related to boys. This rate was lower compared to that reported in the studies conducted by Abolfotouh et al. in Saudi Arabia, Haddad and Malak in Jordan, and Steptoe et al. in 13 European countries with a similar definition of nicotine dependence. The prevalence of nicotine dependence was also lower than other studies in Iran, although none of the above studies were performed on medical students.

Among the limitations in the implementation of this study was the relevance of variables to a student group (medical students) which usually has less dependence on smoking due to awareness of its complications. It is recommended that this study be carried out on other ethnic, occupational, and age groups. In addition, the large number of questions in the questionnaires in this study led some students to leave the study; thus, it is recommended that fewer background questions and the 4-item or 10-item PSS be used in future studies.

**Conclusion**

According to the study findings, internal religious orientation has a negative and significant relationship with perceived stress and nicotine dependence in students; with increase in internal...
religious orientation, perceived stress and nicotine dependence in students decreased. It is recommended that, more attention be paid to strengthening religious beliefs, in religious and mental health education programs, rather than merely the religious behaviors of the students.

References


Conflict of Interests
The Authors have no conflict of interest.

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بازگشت گاهی جهت گیری مذهبی درونی و بیرونی با استرس ادراک شده و وابستگی به سیگار در دانشجویان

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چکیده
مقدمه: استرس‌های روانی با شیوه‌های ناسالم زندگی از جمله سیگار کشیدن ارتباط دارد. از طرف دیگر، داشتن اعتقادات مذهبی می‌تواند نقش مؤثری در اختلالات روانی مانند استرس ایفا کند. با توجه به مواجهه مکرر دانشجویان رشته پزشکی با شرایط استرس، پژوهش حاضر با هدف بررسی ارتباط جهت گیری مذهبی درونی و بیرونی با استرس ادراک شده و وابستگی به سیگار انجام گردید.

روش‌ها: این مطالعه از نوع همبستگی بود و بر روی دانشجویان رشته پزشکی دانشگاه علوم پزشکی کرمان در سال 1394 انجام شد. 224 دانشجو با استفاده از جدول Morgan و به روش نمونه‌گیری طبقه‌بندی شدند. داده‌ها به وسیله پرسشنامه‌های مذهبی (PSS) و پرسشنامه ROS (Religious Orientation Scale) و پرسشنامه فیگنر (Fagerstrom Test for Nicotine Dependence) جمع‌آوری گردید. داده‌ها با استفاده از آزمون‌های آنالیز رگرسیون و با استفاده از نرم‌افزار SPSS و همبستگی Pearson در نرم‌افزار ANOVA مورد تجزیه و تحلیل قرار گرفت.

یافته‌ها: ارتباط منفی و معنی‌داری بین جهت گیری مذهبی درونی با استرس ادراک شده و وابستگی به سیگار وجود داشت. در حالی که در مورد جهت گیری مذهبی بیرونی، ارتباط معنی‌دار مشاهده نشد.

نتیجه‌گیری: بر اساس نتایج بدست‌آمده، می‌توان گفت که پیشگیری از استرس ادراک شده و وابستگی به سیگار دارید.

واژگان کلیدی: باورهای مذهبی، استرس روانی، دانشجویان، وابستگی به نیکوتین

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