

## Original Article

# Simple and multiple relationships between morningness/eveningness orientation, anxiety sensitivity and addiction in university students

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(Received: 22Nov 2014; Revised: 25Apr 2015; Accepted: 20 May 2015)

## Abstract

**Introduction:** Simultaneous occurrence of psychiatric disorders and substance abuse disorders have widespread effects and are associated with worse prognosis. Addicts should be treated in accordance with the requirements of each of these people. This study aimed at investigating the simple and multiple relationships between morningness/eveningness, anxiety sensitivity and addiction potential in university students.

**Methods:** For this purpose, 200 students were selected by cluster sampling from Islamic Azad University and Payame Noor of Farshband. The scales used for this descriptive study were anxiety sensitivity index (ASI), Composite Scale Of morningness (CSM) and Iranian Addiction Potential Scale (IAPS). For data analysis, simple correlation and regression methods were used.

**Results:** There were simple and multiple relationships between morningness/eveningness, anxiety sensitivity and addiction potential. Multiple regression analysis showed that morningness/eveningness, anxiety sensitivity had significant multiple correlation with addiction potential. However, anxiety sensitivity towards morningness further predicted addiction potential.

**Conclusion:** According to research results, it can be said to individuals that have anxiety and fear and are unable to control their anxiety, may have to use drugs to control their own. In addition, individuals who have morning personalities are less inclined to use drugs because they are more refreshed in the morning.

**Declaration of Interest:** None

**Keywords:** Addiction, Substance use, Psychology.

## Introduction

Research has shown that drug use is associated with a variety of factors, which include genetic factors, social factors (male gender, young age, low income, education, peer group, parental behavior), psychological and personality factors such as low conscientiousness, low agreeableness, and high extraversion with

increased extraversion and neuroticism. Other factors associated with smoking were found to drug use is morningness-eveningness type (1).

Morningness-eveningness (M/E) can be considered as a continuum between two ends: morning and evening types. This separation into chronic types makes reference to individual differences in the preference for a specific time of day to carry out activities during the morning or the afternoon/

evening hours. These differences are reflected in timing of sleep, the peak of cognitive abilities academic performance, personality, psychological and physical dysfunctions, and well-being. The middle class are the combination of the above two types, which are included, about 60 to 70 percent of the population of the middle class. Several studies have reported that evening tendency is more to behavioral disorder such as depression, substance abuse, bipolar, bulimia, and Attention Deficit Hyperactivity Disorder (ADHD) (2).

Circadian rhythms in life are not a constant feature of life, which can change. During adolescence it appears a well-known progressive tendency to evening preference (3). Younger children and older tend to be morning types. Also women tendency is more than men to the morning types (4).

In addition, to the various other problematic behaviors evidenced by evening types, an evening preference may also increase the risk of substance use. Evidence showed that individuals with evening preference consume more alcohol and nicotine than morning types; and these associations appear to be stronger in adolescents than adults. Other studies showed that evening type adolescents tend to use alcohol and nicotine more frequently than morning types and use it more habitually (5).

Anxiety sensitivity (AS) is defined as the fear of anxiety-related bodily sensations derived from beliefs that these symptoms have harmful physical, psychological, or social consequences (6). Theoretically, AS intensifies the symptoms of anxiety disorders as individuals find their own arousal response to be aversive and therefore experience amplified anxiety in response to fear eliciting stimuli (7).

Consistent with this view, AS appears to play an important role in the development and maintenance of mental disorders (8).

People with anxiety may find it hard to relax, concentrate and sleep, and may suffer physical symptoms such as heart palpitations, tension and muscle pain, sweating, hyperventilation, dizziness, faintness, headaches, nausea, indigestion, bowel disturbance and loss of sexual pleasure. These symptoms are accompanied by changes in thoughts, emotions and behavior that substantially interfere with the person's ability to live and work.

Several studies have shown that anxiety sensitivity is associated with smoking and drugs. Several research scholars in the study of anxiety sensitivity and substance abuse in young people who had a history of anxiety and substance use issues have found that anxiety sensitivity and negative emotions were related to substance abuse (9). In another study, researchers have found that anxiety sensitivity play a unique role in the treatment of heroin and crack, and the crack was (10). Researches also investigate the impact of anxiety sensitivity in the use of tranquilizers. They have found that women had significantly higher anxiety sensitivity of sedative drugs used, but this relationship was not found in men. Anxiety sensitivity is the use of tranquilizers. Women may be more susceptible to the sedative drugs as a way to deal with unpleasant feelings and symptoms of anxiety use (11). In one study, it was concluded that anxiety sensitivity is related to a unique smoking process and emotional abnormal significantly mediated the relation to casting (12).

## ***Methods***

The research population consisted of all the students of Payme Noor and Islamic Azad University in the academic year of 2011-2012.

Two hundred university students were selected randomly through cluster sampling. The scales used in this study were:

The Anxiety Sensitivity Index (13) is a 16-item self-report measure that assesses the fear of experiencing anxiety symptoms. Items on the ASI take the form of statements about the possible negative consequences of anxiety symptoms. High scores on the ASI are highly correlated with agoraphobia, panic disorder, and other anxiety disorder diagnoses (13). The ASI has demonstrated acceptable reliability and validity (14). In Iran validity and reliability this scale was reported desirable (15).

Iranian Form of Addiction Potential Scale (IAPS): This scale was made by Zargar in 2006 based on psychosocial situation of Iran (16). This scale is consisted of 41 items and two factors. By the first factor (active potential), most of items were related orderly to antisocial behaviors, tendency to drug consumption, positive attitude to drugs, depression, and sensation seeking. By the second factor (passive potential), most of items were related to non-assertiveness and depression. Its validity and reliability was calculated by various methods. This scale can differentiate not only the addicted persons from non-addicted ones, but also it can differentiate smokers from non-smokers. Moreover, a significant correlation obtained between AP and SCL-25. Using Cronbach's alpha, reliability of the total scale was 0.90; the active subscale and passive subscale were respectively 0.91 and 0.75.

Composite scale of morningness (CSM; Smith, Reilly, & Midkiff, 1989). The CSM is a 13-item scale with a Likert type response format. Five of the elements of the scale refer to different times of day. The score is obtained summing the items and ranges from 13 (extreme eveningness) to 55

(extreme morningness) (17). The CSM's Alpha Cronbach coefficient for the present sample was 0.86 (internal consistency) and the range of inter-item correlations (homogeneity) was from 0.30 to 0.85 (Mean: 0.52).

## Results

As shown in table 1 there are significant simple correlations between *Anxiety Sensitivity*, *Morningness*, and *AP*. There is no significant correlation between morningness and passive subscale.

Table 1. The correlations between the *Anxiety Sensitivity*, morningness and AP

| Predictor variables | AP : dependent variable |                 |                  |
|---------------------|-------------------------|-----------------|------------------|
|                     | IAPS (total)            | IAPS (passive)  | IAPS (active)    |
| Anxiety Sensitivity | $r = 0.28^{**}$         | $r = 0.32^{**}$ | $r = 0.24^{**}$  |
| morningness         | $r = -0.19^{**}$        | $r = -0.11$     | $r = -0.19^{**}$ |

As shown in table 2 multiple regression analysis (enter method) showed that the morningness and anxiety sensitivity had significant multiple correlation with addiction potential ( $F=12.57$ ,  $p<0.001$ ). These morningness and anxiety sensitivity determine 35% of addiction potential variance.

Table 2. The results of multiple regression analysis AP and morningness, anxiety sensitivity with enter model

| Dependent variable       | Predictors          | MR    | RS    | F<br>P                 | Regression coefficients              |                                        |
|--------------------------|---------------------|-------|-------|------------------------|--------------------------------------|----------------------------------------|
|                          |                     |       |       |                        | 1                                    | 2                                      |
| (AP) addiction potential | Anxiety Sensitivity | 0.289 | 0.083 | $F=15.64$<br>$P<0.001$ | $\beta=0.28$<br>$t=3.95$<br>$P<0.01$ |                                        |
|                          | Morningness         | 0.358 | 0.128 | $F=12.57$<br>$P<0.001$ | $\beta=0.30$<br>$t=4.24$<br>$P<0.01$ | $-\beta=0.21$<br>$-t=2.96$<br>$P=0.01$ |

As shown in table 3 multiple regression analysis (enter method) showed that the morningness and anxiety sensitivity had significant multiple correlation with active subscale ( $F=10.37$ ,  $p<0.001$ ). These morningness and anxiety sensitivity determine 32% of addiction potential variance.

Table 3. The results of multiple regression analysis active subscale and morningness, anxiety sensitivity with enter model

| Dependent variable     | Predictors          | MR   | RS    | F<br>P             | Regression coefficients           |                                    |
|------------------------|---------------------|------|-------|--------------------|-----------------------------------|------------------------------------|
|                        |                     |      |       |                    | 1                                 | 2                                  |
| IAPS (active subscale) | Anxiety Sensitivity | 0.25 | 0.064 | F=11.93<br>P<0.001 | $\beta=0.25$<br>t=3.54<br>P<0.001 |                                    |
|                        | morningness         | 0.32 | 0.107 | F=10.37<br>P<0.001 | $\beta=.26$<br>t=3.72<br>P<0.001  | $-\beta=0.20$<br>-t=2.88<br>P=0.01 |

As shown in table 4 multiple regression analysis (enter method) showed that the anxiety sensitivity had significant multiple correlation with passive subscale (F=10.37,  $p < 0.001$ ) anxiety sensitivity determine 32% of passive subscale variance.

Table 4. The results of multiple regression analysis passive subscale and morningness, anxiety sensitivity with enter model

| Dependent variable | Predictors          | MR    | RS    | F<br>P             | Regression coefficients          |                                     |
|--------------------|---------------------|-------|-------|--------------------|----------------------------------|-------------------------------------|
|                    |                     |       |       |                    | 1                                | 2                                   |
| passive subscale   | Anxiety Sensitivity | 0.312 | 0.097 | F=18.55<br>P<0.001 | $\beta=0.31$<br>t=4.30<br>P<0.01 |                                     |
|                    | Morningness         | 0.342 | 0.117 | F=11.30<br>P<0.001 | $\beta=0.30$<br>t=4.46<br>P<0.01 | $-\beta=0.14$<br>-t=1.98<br>P=0.055 |

The results from multiple regression analysis (stepwise model) showed that the three components of neuroticism, conscientiousness and agreeableness had significant multiple correlation with addiction potential (F=32.89,  $p < 0.001$ ). These three components of personality are predictors of addiction potential. Based on the obtained results, the components of openness and extroversion eliminated from regression (See table 4).

## Conclusion

The results of the study showed that there is a significant relationship between anxiety sensitivity and addiction potential. The results of this research study are consistent with some researches (9-12). Because of high anxiety sensitive people often react negatively to signs of anxiety. While those with low anxiety sensitivity, although this may be a sign of unpleasant experience, but they are

not considered a threat to this makes the people who are living difficult. Signs of discomfort and anxiety over assessment and drug use to relieve the symptoms as well as recreational drug use in early kind who you are suffering from symptoms of physical anxiety sensitivity are more susceptible and cause more drug to relieve these symptoms, then they led to the creation of a vicious cycle in this case is more tobacco and drug use has consequences. As Brydjt (2011) stated that women who suffer from anxiety sensitivity may be more susceptible to the sedative drugs as a way to deal with unpleasant feelings and symptoms of anxiety use (11). So we can conclude that stressful situations causing one person evaluating outcomes has played a crucial role. A special event for two people differently they perceive and it depends on their assessment of the situation and appears to be anxiety sensibility may influence assessment (1-2). AS appears to play an important role in the development and maintenance of mental disorders. Anxiety sensitivity makes susceptible individuals either passively or actively prepare to be addicted. Anxiety sensitivity makes their coping strategies (passive training) to prevent addiction and doing risky behavior (pre-activated) to increase the likelihood of drugs (6-9). The results showed that there was a significant relationship between addiction potential and morningness. We can say that people who have a morning personality are characterized with features that are more in the morning and be alert at work with more spirit and their jobs are now (17). However, people who are eveninignesshave to get up early in the morning to feel forced to stay out of other alternatives such as coffee, tea, and tobacco use. Since there is an increasing trend with increasing drug addiction in these individuals is formed. With the integration of the ASR is more common among adolescents and young people. This option can be a warning to parents and the community to be aware of the fact that one of the possible factors that may predispose young people to use tobacco and drugs. People who are practically oriented afternoon character

turns to risky behavior, and this behavior can be a way for them to stay fit. Although coping mechanisms and prevention of drug taking and communication skills are equipped but they cannot cope with energy shortages in the morning and then turn to drugs (1-5, 17).

Both anxiety sensitivity and eveningness important variable in predicting willingness to addiction and its subscales are effective. Anxiety sensitivity as a predictor of addiction, but preparation is inactive. Anxiety sensitivity result to a cognitive change that even the coping skills they do not learn to avoid these situations and actually turns to risky behavior. According to the results of this study, it suggests that therapists and specialists who are involved in drug abuse treatment. Note that this anxiety sensitivity can be to the treatment intervention with the advent of tiny marks on the body, they may be confused with an increased treatment failure and return to addiction. The family is also suggested to be less susceptible to anxiety and its symptoms until the arrival of anxiety sensitivity prevention in children. Suggested to the families to have some plans for their children to make them wake up early for example morning exercises. Also paying attention to morningness-eveningness people is suggested to the head managers while hiring; into prevent those using drugs for being fresh and awake during their job.

### **Acknowledgment**

We would like to thank to our colleagues and the organizations for all provided insight and expertise that greatly assisted this research and patients who helped us kindly in the project.

We also tried to consider all ethical issues in this study.

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