

Drinking Alcohol, Smoking Cigarettes, and Drinking Coffee: Relationships with Neuroticism

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Abstract

In modern society, everyday life is stressful. People often turn to stimulants and depressants to help them cope. Some of these drugs are legal and are commonly used. Which people use these drugs the most? The purpose of this study was to determine if people with high levels of neuroticism are more likely to use alcohol, cigarettes and coffee on a regular basis. Neuroticism is characterized by emotional instability, stress, and anxiety (Jylhä & Isometsä, 2006). Previous studies have found positive correlations between neuroticism and use of alcohol (Settles et al., 2011) and cigarettes (Goodwin & Hamilton, 2002), and a negative relationship between neuroticism and coffee drinking (Bartol, 1975). Based upon these previous studies, we hypothesized that neuroticism would be positively correlated with alcohol and cigarette use, but negatively correlated with coffee drinking. This study expanded upon previous research by including all three substances in a single study.

A total of 675 undergraduates (ages 18 - 65) completed this study in return for course credit. Neuroticism was measured using 10 items taken from the Big-Five Factor Markers that are part of the International Personality Item Pool (Goldberg et al., 2006). Substance use was measured using three self-report items. All measures were completed online.

In this student population, alcohol use did not have a significant relationship with neuroticism. This relationship may have been non-significant because most participants were below the legal drinking age. Probably many of them do not drink, and those that do may be reluctant to admit it.

Cigarette and coffee use were both positively related to neuroticism. The positive relationship for coffee consumption was surprising. Bartol (1975) found that high levels of neuroticism were associated with less coffee consumption and that people drank less coffee when they were in stressful circumstances. Our results may have been different because of changes in how and when coffee is consumed. Perhaps modern students drink coffee as a cognitive enhancement, and continue to drink coffee when under stressful circumstances (Franke et al., 2011). Future research should examine how changes in coffee consumption might contribute to modern stress and anxiety.

Introduction

Neuroticism is a personality trait characterized by anxiety, emotional instability, and low conscientiousness (Jylhä & Isometsä, 2006). It is often associated with impulsivity and behavioral dysregulation (Fetterman, Robinson, Ode & Gordon 2010). Because people with high levels of neuroticism are also impulsive, they may use more alcohol, cigarettes, and coffee. One aspect of neuroticism is high stress levels. People who experience more stress may be more likely to use these substances (Liu, Wang, Zhan, & Shi 2009).

Previous research has found a positive relationship between neuroticism and alcohol consumption. Alcohol consumption is one way that people deal with stress, and individuals with high levels of neuroticism experience more stress. Because of this, people who have high levels of neuroticism may drink more in order to reduce their high stress levels. This hypothesis is supported by a study conducted by Settles, Fischer, Cyders, Combs, Gunn, & Smith (2011): They found that women who had high levels of neuroticism were more likely to be diagnosed with alcohol dependence.

Previous research has also found a positive relationship between neuroticism and cigarette usage. People may smoke to reduce stress. According to Terracciano and Costa (2004), smokers have higher levels of neuroticism than nonsmokers.

Lastly, previous research has found a negative relationship between neuroticism and coffee drinking. Specifically, a 1975 study found that people drink less coffee when they are stressed and that people who are high on neuroticism drink less coffee than people with low levels of neuroticism (Bartol, 1975).

The purpose of our research is to replicate these results by examining the relationships of neuroticism with drinking alcohol, smoking cigarettes, and drinking coffee. We hypothesize that high levels of neuroticism will be positively correlated to greater use of alcohol and cigarettes, but negatively correlated with coffee drinking. This study expands upon previous research by including all three variables in a single study. This makes it easier to compare the results because the same sample is used in studying all three relationships.

Method

Participants

A total of 675 undergraduates (425 female, 249 male, and 1 undisclosed) participated in this study in return for course credit. Ages ranged from 18 to 65 (mean 20.43, standard deviation 4.50).

Measures

Neuroticism Scale

Neuroticism was measured using 10 items from the 50-item Big-Five Factor Markers from the International Personality Item Pool (Goldberg, Johnson, Eber, Hogan, Ashton, Cloninger, & Gough, 2006). The response scale has five options: very inaccurate 1, moderately inaccurate 2, neither accurate nor inaccurate 3, moderately accurate 4, and very accurate 5.

Substance Use

Three one-item measures were used to measure the use of alcohol, cigarettes, and coffee. The items were: “How many cigarettes do you smoke each day?” “How many cups of coffee have you had in the last week?” and “How many alcoholic drinks do you have each week?”

Procedures

The study was completed online in a single 15-minute session.

Results

Smoking cigarettes and drinking coffee were both positively related to neuroticism. However, drinking alcohol was not significantly related to neuroticism. See Table 1.

Discussion

This study examined the correlation of neuroticism to smoking cigarettes, drinking coffee, and drinking alcohol. We found a positive relationship between neuroticism and smoking cigarettes, replicating previous research (Terracciano & Costa, 2004). Future research should also examine whether people who have high levels of neuroticism have a harder time quitting smoking compared to those who have low levels of neuroticism. People may find that smoking helps them deal with stress, and people find it difficult and stressful to quit smoking. These two factors may combine to make it harder for people who score high on neuroticism to quit smoking.

In contrast, we did not find a significant relationship between neuroticism and alcohol consumption. This may be due to the sample we used. The average age was less than 21. Most of the participants in our study probably did not drink. If they did drink, they may have been reluctant to admit this, given that it is illegal.

Surprisingly, we found a positive relationship between neuroticism and drinking coffee. Research published in 1975 found a negative relationship between these variables (Bartol, 1975). It seems like coffee consumption has changed a lot in the last 40 years. Coffee is sold in larger cups than it used to be, and coffee shops are very common. Perhaps 40 years ago people drank coffee when they wanted the stimulant effect of the caffeine, and knew better than to drink coffee when stressed. In contrast, perhaps modern students drink coffee both as a habit and as a cognitive enhancement, and continue to drink coffee when under stressful circumstances (Franke et al., 2011). Indeed, perhaps modern students who are really busy and stressed become sleep deprived (in a way that students weren't sleep deprived 40 years ago), and drink more coffee in order to combat sleep deprivation (Lyvers et al., 2004). If so, perhaps coffee consumption even contributes to feelings of stress and self-reports of high levels of neuroticism (Lyvers, Brooks, & Matica, 2004). Future research should examine how coffee may contribute to stress and neuroticism. In addition, the research should be expanded to include other types of caffeine. Students drink a lot of caffeinated sodas, which may contribute to stress, too. Moreover, although young children do not drink much coffee, they do drink caffeinated sodas. This may make the next generation stressed and anxious.

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Variables	Correlation
Smoking cigarettes	.11**
Drinking coffee	.09*
Drinking alcohol	.04

* $p < .05$. ** $p < .01$.