

## Abstract

This study examined the relationship between Neuroticism and the number of car accidents in which the participant was driving. Previous research has shown that Neurotic people tend to be aggressive and impulsive, and aggression and impulsivity are related to car accidents. We therefore hypothesized that higher levels of Neuroticism would be associated with more car accidents. A total of 675 participants completed the 10-item Neuroticism scale from the International Personality Item Pool (Goldberg et al., 2006) and also reported how many car accidents they had been in while they were driving. In our study, the correlation between car accidents and Neuroticism was very small and not significant ( $r(673) = -.009, p = .822$ ). Future research should examine the relationships of car accidents with additional personality factors and facet-level measures of personality factors. In addition, future research should control for the sex and age of participants because both of those factors are related to the number of car accidents.

## Introduction

Neuroticism has been defined as “having a tendency to experience negative affectivity and psychological distress” (Bettencourt, Talley, Benjamin, & Valentine, 2006, p. 754). The facets of Neuroticism include “anxiety, angry hostility, depression, self-consciousness, and impulsiveness” (Bettencourt et al., 2006, pg 754). Neuroticism has been linked to several factors that are associated with car accidents.

One of these factors is aggression. Aggression has been defined as “generic assertiveness, which includes both constructive and destructive behaviors” (Rosenzweig, 1977, p. 379). Several studies have linked neuroticism to aggression. In one study, Bettencourt (2006) found that neuroticism was linked to anger and aggression but only under provoking situations (e.g., driving). In another study, Edmunds (1977) found that neuroticism was significantly correlated with indirect aggression and irritability. Given that neuroticism is associated with aggressing, it is interesting to note that , other studies have found a link between driving accidents and aggression. For example, one study found that drivers with high anger levels showed more recurrent and extreme anger, more aggressive and risky behavior, and more vehicle accidents than drivers with lower levels of anger (Deffenbacher, Huff, Lynch, Oetting, & Salvatore, 2000). In another study, researchers found that aggressive driving produced road rage and was also likely to provoke intent to retaliate (Dukes, Clayton, Jenkins, Miller, & Rodgers, 2001). Thus, both neuroticism and driving accidents are associated with aggression.

## Introduction Con't

Another association between neuroticism and car accidents is impulsiveness. Impulsivity has been defined as “action without forethought or conscious judgment, behavior without adequate thought, and the tendency to act with less forethought than do most individuals of equal ability and knowledge” (Moeller, Barratt, Dougherty, Schmitz, & Swann, 2001, p. 1783). Stelmack, Houlihan, & McGarry (1993) found that neuroticism was positively correlated with impulsiveness. In addition, impulsiveness has been linked to car accidents in other studies. For example, Dahlen, Martin, Ragan, and Kuhlman (2005), after taking into account demographic variables, personality, cognitive abilities, and information processing, found that high levels of impulsiveness could help predict moving violations, dangerous driving, and road rage. Furthermore, Smith, Waterman, & Ward (2006) found that impulsive individuals are more likely to engage in high-risk behaviors such as aggression and driving while under the influence of alcohol, which is likely to lead to accidents. Therefore, not only is impulsiveness linked to car accidents and neuroticism, but also to aggression, which has already been shown to be a factor in car accidents and neuroticism.

In summary, neuroticism is linked to two factors that are themselves associated with car accidents: aggression, and impulsiveness. We therefore hypothesized that neuroticism would be positively associated with car accidents: that people with higher scores on a measure of neuroticism would also be more likely to get into car accidents.

## Method

### Participants

There were 675 undergraduate students (425 female, 249 male, and 1 undisclosed) who participated in this study in return for course credit at a large western university. They ranged in age from 18 to 65 (mean 20.43, standard deviation 4.497).

### Measures

The Neuroticism measure came from the International Personality Item Pool (IPIP; Goldberg, Johnson, Eber, Hogan, Ashton, Cloninger, & Gough, 2006). The Neuroticism measure is one of the five scales on the 50-item measure of the Big Five. For this study we used the 10 items related to Neuroticism (five positively keyed and 5 negatively keyed). The response scale has five points (1 being “Very Inaccurate” and 5 being “Very Accurate”).

The single item measuring car accidents is, “How many car accidents have you been in, during which you were driving?”

### Procedure

Participants completed this study in return for course credit. The questionnaire took about 15 minutes to complete online.

## Results

The correlation between neuroticism and car accidents was close to zero and non-significant ( $r(673) = -.009, p = .822$ ).

## Conclusions

This study examined the correlation between car accidents and neuroticism. We hypothesized that there would be a positive correlation between neuroticism and car accidents because previous research showed that neuroticism is positively associated with impulsiveness and aggression, which are positively related to car accidents. Surprisingly, we did not find a significant relationship between these two variables in this study.

Some possible explanations for these results would be the fact that we did not control for either sex or age. Monarrez-Espino, Hasselberg, and Laflamme (2006) found that “males have a higher crash involvement than females in all age groups” and a “higher incidence among younger drivers for crashes”. Because both sex and age are related to the frequency of car accidents, future research on the relationship of neuroticism to car accidents should control for these two variables.

In addition, future research should examine the relationships of car accidents with additional personality factors (such as Conscientiousness and Extraversion) and facet-level measures of personality factors (such as Anger, Depression, Honesty, and Anxiety Level).

## References

- Bettencourt, B., Talley, A., Benjamin, A., & Valentine, J. (2006). Personality and Aggressive Behavior Under Provoking and Neutral Conditions: A Meta-Analytic Review. *Psychological Bulletin, 132*, 751-777.
- Dahlen, E., Martin, R., Ragan, K., & Kuhlman, M. (2005). Driving anger, sensation seeking, impulsiveness, and boredom proneness in the prediction of unsafe driving. *Accident Analysis & Prevention, 37*(2), 341-348.
- Deffenbacher, J. L., Huff, M. E., Lynch, R. S., Oetting, E. R., & Salvatore, N. F. (2000). Characteristics and treatment of high-anger drivers. *Journal of Counseling Psychology, 47*, 5-17.
- Dukes, R. L., Clayton, S. L., Jenkins, L. T., Miller, T. L., & Rodgers, S. E. (2001). Effects of Aggressive Driving and Driver Characteristics on Road Rage. *The Social Science Journal, 38*, 323-331.
- Edmunds, G. (1977). Extraversion, neuroticism and different aspects of self-reported aggression. *Journal of Personality Assessment, 41*, 66-70.
- Goldberg, L. R., Johnson, J. A., Eber, H. W., Hogan, R., Ashton, M. C., Cloninger, C. R., & Gough, H. C. (2006). The International Personality Item Pool and the future of public-domain personality measures. *Journal of Research in Personality, 40*, 84-96.
- Moeller, F. Gerard, Barratt, Ernest S., Dougherty, Donald M., Schmitz, Joy M., & Swann, Alan C. (2001). Psychiatric aspects of impulsivity. *American Journal of Psychiatry, 158*, 1783-1793.
- Monarrez-Espino, J., Hasselberg, M., & Laflamme, L. (2006). First year as a licensed car driver: Gender differences in crash experience. *Safety Science, 44*, 75-85.
- Rosenzweig, S. (1977). Outline of a denotative definition of aggression. *Aggressive Behavior, 3*, 379-383.
- Smith, P., Waterman, M., & Ward, N. (2006). Driving aggression in forensic and non-forensic populations: Relationships to self-reported levels of aggression, anger and impulsivity. *British Journal of Psychology, 97*, 387-403.
- Stelmack, R., Houlihan, M., & McGarry-Roberts, P. (1993). Personality, reaction time, and event-related potentials. *Journal of Personality and Social Psychology, 65*, 399-409.