

RUNNING HEAD: Aggression, Anxiety, and Prescriptions

Unintended Consequences: Effects of Psychiatric Medication on College Students

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Introduction

Of the population of college-aged Americans, 5.63 million are prescribed psychiatric medications. Two of the most commonly prescribed are benzodiazepines and stimulants, used to treat anxiety and ADHD, respectively. About 1.3 million Americans aged 18-24 are prescribed psychiatric stimulants, and about 1.5 million prescribed benzodiazepines (“Total Number of People,” 2018). Although the purpose of these is to relieve patients’ symptoms, some researchers investigated if the intended benefits outweigh the unintended risks. Previous research suggests that benzodiazepines are related to higher levels of aggression (Jones, Nielsen, Bruno, Frei, & Lubman, 2011). Counterintuitively, stimulants are related to lower levels of aggression but have been associated with higher levels of anxiety (McKernan et al., 2015). The current study explores the relationship between those who actively take prescription benzodiazepines or stimulants and anxiety and aggression levels.

Hypotheses

It was predicted that:

- 1) Aggression levels would be higher for those taking benzodiazepines than those who do not and
- 2) Aggression levels would be lower for those taking stimulants than those who do not.
- 3) Anxiety levels would be lower for those taking benzodiazepines than those who do not, and
- 4) Anxiety levels would be higher for those taking stimulants than those who do not.

Methods

This study was taken by students enrolled in a private liberal arts college in the northeastern United States and approved by the college's Institutional Review Board. The scales used were the Buss-Perry Aggression Scale (BPAS) and Zung Self-Rating Anxiety Scale (ZSRA). Ninety-eight respondents completed the BPAS. Seven hundred thirty-seven completed the ZSRA. Participants in a supervised lab setting completed an anonymous online survey using Qualtrics, receiving extra credit in psychology courses in exchange for participation. There were other scales in this study among these, decreasing participants' knowledge of the goals of this study.

Results

Differences in aggression in those taking benzodiazepines ($M= 72.10$, $SD= 17.99$) trended towards significance compared with those that did not ($M= 63.20$, $SD= 14.99$), $t(105)= 1.89$, $p= .061$. Participants prescribed benzodiazepines ($M= 23.21$, $SD= 7.63$) scored significantly higher on the hostility subscale compared to those who do not take the drug ($M= 18.75$, $SD= 6.43$), $t(105)= 2.22$, $p = .029$.

Results did not support the second and third hypotheses. Stimulant-users ($M= 71.75$, $SD= 10.75$) were significantly *more* aggressive than non-users ($M= 62.73$, $SD= 15.95$), $t(96)= 2.165$, $p= .033$. Benzodiazepines-users ($M= 44.75$, $SD= 12.31$) were significantly *more* anxious than non-users ($M= 35.84$, $SD= 7.70$), $t(798)= 6.009$, $p< .001$.

The fourth hypothesis was supported. Participants prescribed stimulants ($M= 39.52$, $SD= 9.04$) were significantly more anxious than those not taking the drug ($M= 36.18$, $SD= 8.61$), $t(735)= 3.29$, $p= .001$.

Discussion

Results revealed that students prescribed benzodiazepines are more prone to hostility. Previous research reports hostility in adults taking this drug (Jones, Nielsen, Bruno, Frei, & Lubman, 2011). Items in the hostility subscale assess internal struggles in social settings such as distress, envy, and untrustworthiness. Since these emotions partly reflect a state of paranoia, this may reflect an aspect of the heightened anxiety that we also found among benzodiazepine-users. It is not clear whether the heightened anxiety is a cause or effect of prescription use.

In contrast to previous research, those prescribed stimulants are significantly more aggressive. Since these drugs may raise alertness and energy, it may be reasonable to expect this to raise paranoia and outbursts as a result.

Interestingly, benzodiazepines-users are significantly more anxious than non-users, suggesting that although these medicines treat panic attacks, restlessness, and muscle spasms in the short term, they may cause anxiety in the long term. Anxiety might also result from the short half-life of these drugs, the withdrawal, and the dependency that results. Further research should compare those solely on benzodiazepines, with those who solely take stimulants, as polypharmacy is common.

In addition to the above findings and replicating other studies, stimulants-users were significantly more anxious than non-users. It is clear that prescription drug use is associated with costs as well as benefits, and further longitudinal research may help understanding cause and effects with these medications.

References

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