

The Relationship Between Anti-Anxiety and Anti-Depressant  
Medication on Therapy and Coping Mechanism

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## The Effects of Anti-Anxiety and Anti-Depressant Medication on Coping Mechanisms

In 2018 the American College Health Association found that 63% of college students in the United States had been suffering from anxiety and 23% had diagnosable anxiety (ACHA, 2018); not only are college students suffering from anxiety, but 19.5% of all adults aged 18-29 years old are as well (CDC, 2020). Evidently, anxiety is a wide-reaching problem in the United States. A person suffering from anxiety will experience unmanageable amounts of worry (Kapczinski, 2010). This worry then causes symptoms including problems concentrating, problems sleeping (inability to fall asleep or stay asleep), restlessness, irritability, and becoming fatigued quickly (SAMSA, 2016). More symptoms include muscle tension, xerostomia (dry mouth), perspiration, and diarrhea (Kapczinski, et al., 2010).

Despite the prevalence of anxiety, few who suffer from symptoms seek treatment (Bandelow, 2020). Without treatment, anxiety can lead to the development of symptoms to physical illnesses (Crits-Christoph, et al., 2011). There are multiple forms of treatments, with the most common being medications and therapy, occasionally used in combination (Walsh, 2008; Chambless, 1993; Cramer, 1998).

### **Medications**

#### ***Benzodiazepines***

Benzodiazepines strengthen the operation of gamma-aminobutyric acid (GABA). GABA itself is a common neurotransmitter found within the central nervous system that reduces the sensitivity of neurons (Griffin, et al., 2013). This reduction in sensitivity lessens the feeling of anxiety. Benzodiazepines help with this reduction of anxiety by enhancing the binding of GABA

to the receivers (Griffin, et al. 2013). Popular benzodiazepines include Lorazepam (Ativan) and Alprazolam (Xanax) ([screening.mhanational.org](http://screening.mhanational.org)).

Within the United States, 55-94% of those with anxiety disorders are given benzodiazepines and it has been found that general physicians are more likely to prescribe this medication than psychiatrists (Bandelow, 2020; Olfson, et al., 2015). In 2007 alone, 85 million prescriptions for this medication were filled in the United States (Olfson, et al., 2015). This popularity is due to the drugs lack of interactions with other medications, as well as their lack of overdose potential compared to barbiturates (Lader, et al., 1999). Further benefits come in the form of benzodiazepines short-term effects: the calm given by the medication is fast acting following ingestion. In addition, benzodiazepines lack the initial negative effects seen with SSRIs and SNRIs, such as heightened nervousness and sleeplessness (Bandelow, 2020). Despite their positive effects and lack of certain side-effects, benzodiazepines still have their own detriments (Lader, et al., 1999).

Minor side effects can include sleepiness, fatigue, and lethargy, which are typically seen with lower doses of the medication. Higher doses are associated with more impairing effects, including blurred vision, dizziness, diminished hand-eye coordination, unsteady moods, slurred speech, and unstable, hostile behavior (Griffin, et al., 2013). The longer a benzodiazepine is being taken, the greater the risk of severe side effects, addiction, and withdrawal (Lader, et al. 1999; Griffin et al., 2013). These risks emanate from the inability of benzodiazepines to be eliminated from the body quickly, allowing doses to accumulate in fat tissue over long-periods of use (Griffin, et al., 2013). Thus, it is recommended that benzodiazepines are slowly discontinued over time (Walsh, 2008). Due to the side effects associated with usage of benzodiazepines, a controversy is ongoing about the use of this medication for anxiety (Stacevic, 2014).

### *Selective Serotonin Reuptake Inhibitors (SSRI)*

SSRIs are known to increase the levels of serotonin present in the brain. Serotonin itself is a neurotransmitter that has been observed to increase positive moods and emotions (nhs.uk). The increase of serotonin found in the brain when using SSRI's is due to the inhibition of serotonin reuptake. More specifically, after serotonin is released and spread throughout the brain, it is reabsorbed into the nerves, but with SSRIs the serotonin stays within the brain longer, allowing for levels to rise (nhs.uk). With higher levels of serotonin, the transmission of messages neuron to neuron improves, allowing for depressive symptoms to decline. Common SSRI's include Lexapro, Prozac, and Zoloft (mayoclinic.org).

SSRIs are incredibly popular antidepressants and are one of the most prescribed antidepressant medications within the United States. Wide usage of SSRIs come from the ability of the medication to be used over long periods of time and the lack of overdose potential typically seen in pre-existing anti-depressants (Lorman, 2018). With the ability to be used over long-periods of time to maintain improvements, SSRIs can also be used to treat immediate symptoms (Lochman, 2018). With this, SSRIs are safe for children and older adults, unlike older anti-depressants and benzodiazepines (Ferguson, 2001). Further popularity comes from the ability of SSRIs to be used for both anxiety and depression, allowing doctors to prescribe only one medication and not multiple (Lochman, 2018). Positive effects and convenience are evident when using SSRIs, but there are prominent negative side-effects as well (Lorman, 2018).

Typical adverse effects at the beginning of use consist of diarrhea, dizziness, headaches, nausea, trouble sleeping, restiveness, sweating, and anxiety (Lochman, 2018). In addition, SSRIs can interact with other medications used for mental illnesses causing problems (Bandelow, 2020). Adverse effects including nausea and diarrhea can be reduced when the dose levels are

lessened for a time. Further negative effects take the forms of sexual dysfunction, the grinding of teeth, involuntary jerking or twitching, and the feeling of burning or tingling in the arms, hands, legs, and feet (Lochman, 2018). These effects typically occur earlier in treatment, except for sexual dysfunction which can occur months into treatment and can affect up to 30% of those taking SSRI's. Due to the prevalence, many different medical treatments exist to treat sexual dysfunction caused by SSRI's. When SSRI treatment is abruptly ended withdraw symptoms including headaches, flu-like symptoms, dizziness, and restlessness can occur (Lochman, 2018).

### **Therapeutic Treatment**

#### ***Cognitive Behavioral Therapy (CBT)***

CBT is a psychotherapy used to treat a number of issues and mental health disorders, including anxiety disorders, depression, sleep disorders, PTSD, and more (mayoclinic.org). Core principles within CBT include the understanding that psychological problems can occur due to hurtful and unhelpful ways of thinking and problematic learned behaviors (apa.org). To remedy this, CBT aims to identify and improve these thinking patterns and learned behaviors. Unlike other psychological therapies, scientific evidence has been produced showing CBT does create changes (apa.org).

Another aspect of CBT is the development of coping mechanisms such as muscle relaxation and personal observation of one's own anxiety and typical triggers (Borkovec, et al., 2001). These mechanisms can be used in advance of a stressful event in hopes to prevent stress or used after a stressful event has occurred (Zarei, 2016). Further examples of coping mechanisms include regulated breathing and mindfulness (Rosenzweig, et al., 2003; Jerath, et al., 2015).

Compared to certain medications, including diazepam and lorazepam, CBT has been found to have better treatment outcomes (Beck, 1993). Furthermore, when used in conjunction with diazepam, CBT can be more effective in the treatment of generalized anxiety disorder (Beck, 1993). In addition, CBT has the ability to be used for more than one disorder as there are different cognitive models for the different disorders (Beck, 1993). While CBT is seen as an effective therapy, the various models of therapy and therapeutic strategies used within CBT make it difficult to study. There are many studies done on CBT, but with different therapists using CBT differently it can be difficult to receive valid results (Stephan, et al., 2018). This lack of structure can be positive despite the difficulties it creates. For example, it allows clients and therapists to collaborate and create a personalized treatment strategy (apa.org). Risks involved with CBT usually involve emotional discomfort, typically caused by reliving stressful experiences or participation in exposure therapy (apa.org).

### **Current Study**

While there is a plethora of information on the effects of anti-anxiety, anti-depressant medications and CBT therapy on anxiety, there is a lack of information surrounding the prescribing of anti-anxiety or anti-depressant medications early in life and if this effects the knowledge of other coping mechanisms. This study aims to look further into this issue and discover whether there is any type of correlation between age of prescription and knowledge of other anxiety relief methods, such as CBT therapy and coping mechanisms.

### **Hypotheses**

- 1) The younger the participant was at the prescribing of their medication, the less knowledge they will have of therapy or coping mechanisms.

- 2) More participants will have been prescribed anti-anxiety or anti-depressant medications by a physician rather than by a psychiatrist.

## Methodology

### Participants

A total of 253 participants were recruited from Oklahoma State University through SONA systems to participate in this study. The participants included 183 females, 65 males, and 6 participants who identified as transgender or gender queer. The mean age of the participants was 20.6 years old with a range 18-44 years old. The sample included 73% Caucasian or white, 7.8% Hispanic or Latino, 5.5% African American, 7.8% American Indian, .8% Pacific Islander, .4% Asian, and 1.6% other.

### Measures

**Demographic Questionnaire.** At the beginning of the survey participants were asked to complete a demographic questionnaire. This collected gender, age, and ethnicity of the participants.

**Brief COPE Inventory.** The Brief COPE Inventory (Carver, 1997) was given to the participants. The inventory used is a shortened version of Carver et al. (1989) the COPE Inventory and measures how participants cope with stressors using twenty-four questions in total. Fourteen types of coping are measured with two questions being used per type (Carver, 1997). For every question the participant is asked to rate their usage of a specific coping activity on a 1-4 scale. One being “I haven’t been doing this at all” and four being “I’ve been doing this a lot”. The higher the rating, the more the participant uses that type of coping (Carver, 1997).

**Open Ended Questions.** There is a total of four strictly open-ended questions within the study. Of the four open ended questions, two are asking about age, one is asking what types of

medications were prescribed for anxiety, and one is asking what types of coping mechanisms the participant is likely to use in an anxious situation. In addition to these, certain multiple-choice questions were given an 'other' option for the participants to type in a personalized answer if none of the provided answers correctly represented what they were trying to portray. These were rarely used, but accounted for when necessary.

**Procedure.** Once approval from Oklahoma State Institutional Review Board (IRB) was obtained, a survey was sent to SONA for distribution to Oklahoma State University students. Students who were willing to participate read through the consent form and instructions first. Once the consent form was electronically signed the participants were sent directly to the survey, which lasted approximately 30 minutes. From January 2021 to October 2021, the study was given. All responses were voluntary and anonymous. Once the study was completed all participants received the debriefing form.

### Results

A Pearson correlation coefficient was conducted to examine the relationship between age at time of prescription and knowledge of therapy or coping mechanisms (hypothesis 1). .05 significance was used, meaning any significance level under .05 is considered significant. The results of the study indicated no significant results between age of prescription and knowledge of therapy or coping mechanisms. There was no correlation, negative or positive, between the two variables,  $r = -.074$ ,  $N=119$ , and the relationship was not significant ( $p=.426$ ). The age at which one was prescribed anti-anxiety or anti-depressant medication did not appear to be associated with one's knowledge of therapy or coping mechanisms.

When looking into the results of hypothesis 2, it was found that a greater number of participants received their medication from general physicians than from psychiatrists. More



specifically, out of the 119 participants who had been prescribed an anti-anxiety or anti-depressant medication 62.2%, or 74 participants, received their medication from a general physician, while 36.1%, or 43 participants received their medication from a psychiatrist.

### **Discussion**

The primary purpose of this study was to examine the relationship between age at time of prescription and lack of knowledge of therapy and coping mechanisms. Previous research has found anxiety to be extremely prevalent in the United States and research on how to best deal with anxiety disorders has found CBT and certain medications to be incredibly helpful (CDC, 2020; Beck, 1993), but very little has been done to understand the impact of age at the time of prescription on knowledge of therapies and coping mechanisms. Understanding if there is a correlation between younger age at time of prescription and a lack of knowledge about CBT and coping mechanisms could change how and when medication is given to those suffering from diagnosable anxiety at young ages. The study hypothesized a positive correlation between the two due to the assumption that when relief is found, further exploration for comforting activities is ceased. Simply, when a person finds something that works for them, they lack the drive to look for alternative methods of relief.

Despite what was expected, this study showed no correlation between age at the time of prescription and knowledge of therapies and coping skills. There were no significant results correlating the two factors, but further research should still be considered. While this specific study failed to find a correlation, a positive or negative correlation is still possible.

In addition to the primary hypothesis, this study examined where participants received their medication from. It was found that an overwhelming number of participants who reported receiving anti-anxiety or anti-depression medication received the medication from a general

physician. Similarly, Olfson et al., tells us that benzodiazepines are one of the most common psychotropic drugs to be prescribed and most prescriptions for these medications come from general physicians (2015) It would be interesting for this to be looked further into. First, is this the same for all psychotropic drugs or are benzodiazepines the exception? Due to the results of the current study, this is doubtful, but further research is necessary. A second question that would be interesting to discuss is how long the patient was experiencing anxiety symptoms and how severe they were before a general physician prescribed an anti-anxiety or anti-depressant drug compared to when a psychiatrist prescribed the drug. This could reveal if an over prescription of anti-anxiety or anti-depressant drugs is occurring at the general physician level.

The current study asked the ages of participants at the time of prescription and found that the most common ages at time of prescription were 17, 18, and 19. Out of the 119 participants who had been prescribed medication 15.1%, were prescribed medication at 17, 17.6% at 18, and 15.1% at 19 years of age. The limitation of only college students having access to the study could have influenced the statistics. If a further study was conducted comparing the age of prescription between college students and non-college students perhaps the common ages of prescription would change.

There were limitations in how the study was run and further research could possibly find different results. These limitations include the usage of only Oklahoma State students in the study. Meaning, only students registered at Oklahoma State University actively taking classes participated in the study. Furthermore, due to the fact the participants were enrolled in college, the age range is very limited, with only a few exceptions. This requirement to be enrolled not only in college, but specifically at Oklahoma State University, in addition to the age limitation greatly cuts the population down. Meaning, the data is limited to this specific population and

cannot be considered generalizable until further studies expanding the tested population are done. Another limitation of the study is that the data was collected from a self-report questionnaire over the internet. Meaning, the participants did not take this study in a controlled environment. Outside influences including pets, friends, roommates, etc., could have caused distraction and limited the validity of the study.

Overall, this study showed no correlation between age of prescription and lack of knowledge about therapy and coping mechanisms. In contrast, there was an interesting find in terms of who prescribed the participants with their anti-anxiety or anti-depressant medication. It was found that general physicians prescribed more medication than psychiatrists, opening the door for further questioning of why this is so and if there is a difference in when the medication is given by the different professions.

## Bibliography

- American College Health Association. American College Health Association-National College Health Assessment II: Undergraduate Student Reference Group Data Report Fall 2018. Silver Spring, MD: *American College Health Association*; 2018.
- American Psychological Association. (n.d.). What is cognitive behavioral therapy? *American Psychological Association*. Retrieved November 16, 2021, from <https://www.apa.org/ptsd-guideline/patients-and-families/cognitive-behavioral>.
- Bandelow, B. (2020). Current and novel psychopharmacological drugs for anxiety disorders. *Advances in Experimental Medicine and Biology*, 347–365. [https://doi.org/10.1007/978-981-32-9705-0\\_19](https://doi.org/10.1007/978-981-32-9705-0_19).
- Beck, A. (1993). Cognitive Therapy: Past, Present, and Future. *Journal of Consulting and Clinical Psychology*, 61(2), 194–198. <https://doi.org/10.1037/0022-006X.61.2.194>.
- Benzodiazepines*. MHA Screening. (2021, September 30). Retrieved November 16, 2021, from <https://screening.mhanational.org/content/benzodiazepines/>.
- Borkovec, T. D., & Ruscio, A. M. (2001). Psychotherapy for generalized anxiety disorder. *Journal of clinical psychiatry*, 62, 37-45. [https://www.psychiatrist.com/wp-content/uploads/2021/02/16617\\_pschotherapy-generalized-anxiety-disorder.pdf](https://www.psychiatrist.com/wp-content/uploads/2021/02/16617_pschotherapy-generalized-anxiety-disorder.pdf).
- Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the Brief COPE. *International Journal of Behavioral Medicine*, 4, 92-100. <https://local.psy.miami.edu/people/faculty/ccarver/availbale-self-report-instruments/brief-cope/>.

- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: a theoretically based approach. *Journal of personality and social psychology*, 56(2), 267. <https://doi.org/10.1037/0022-3514.56.2.267>.
- Chambless, & Gillis, M. M. (1993). Cognitive Therapy of Anxiety Disorders. *Journal of Consulting and Clinical Psychology*, 61(2), 248–260. <https://doi.org/10.1037//0022-006X.61.2.248>.
- Cramer. (1998). Coping and Defense Mechanisms: What's the Difference? *Journal of Personality*, 66(6), 919–946. <https://doi.org/10.1111/1467-6494.00037>.
- Crits-Christoph, P., Newman, M. G., Rickels, K., Gallop, R., Gibbons, M. B., Hamilton, J. L., Ring-Kurtz, S., & Pastva, A. M. (2011). Combined medication and cognitive therapy for generalized anxiety disorder. *Journal of Anxiety Disorders*, 25(8), 1087–1094. <https://doi.org/10.1016/j.janxdis.2011.07.007>.
- Ferguson, J. M. (2001). SSRI antidepressant medications: adverse effects and tolerability. *Primary care companion to the Journal of clinical psychiatry*, 3(1), 22. <https://doi.org/10.4088/pcc.v03n0105>.
- Griffin, C. E., Kaye, A. M., Bueno, F. R., & Kaye, A. D. (2013). Benzodiazepine pharmacology and central nervous system–mediated effects. *Ochsner Journal*, 13(2), 214–223. <http://www.ochsnerjournal.org/content/ochjnl/13/2/214.full.pdf>.
- Jerath, Crawford, M. W., Barnes, V. A., & Harden, K. (2015). Self-Regulation of Breathing as a Primary Treatment for Anxiety. *Applied Psychophysiology and Biofeedback*, 40(2), 107–115. <https://doi.org/10.1007/s10484-015-9279-8>.
- Kapczinski F. (2003). Antidepressants for generalized anxiety disorder (GAD). *Cochrane Database of Systematic Reviews*, 2. <https://doi.org/10.1002/14651858.CD003592>.

- Lader, H. (1999). Limitations on the use of benzodiazepines in anxiety and insomnia: are they justified? *European Neuropsychopharmacology*, *9*, S399–S405.  
[https://doi.org/10.1016/S0924-977X\(99\)00051-6](https://doi.org/10.1016/S0924-977X(99)00051-6)
- Lochmann D., Richardson T. (2018) Selective Serotonin Reuptake Inhibitors. In: Macaluso M., Preskorn S. (eds) Antidepressants. *Handbook of Experimental Pharmacology*, 250. Springer, Cham. [https://doi.org/10.1007/164\\_2018\\_172](https://doi.org/10.1007/164_2018_172).
- Lorman, W. J. (2018). Pharmacology Update: The Selective Serotonin Reuptake Inhibitors. *Journal of Addictions Nursing*, *29*(4), 260-261.  
<https://doi.org/10.1097/JAN.0000000000000250>.
- Mayo Foundation for Medical Education and Research. (2019, March 16). *Cognitive behavioral therapy*. Mayo Clinic. Retrieved November 16, 2021, from <https://www.mayoclinic.org/tests-procedures/cognitive-behavioral-therapy/about/pac-20384610>.
- Mayo Foundation for Medical Education and Research. (2019, September 17). *Selective serotonin reuptake inhibitors (SSRIs)*. Mayo Clinic. Retrieved November 02, 2021, from <https://www.mayoclinic.org/diseases-conditions/depression/in-depth/ssris/art-20044825>.
- NHS. (2018, October 2). *Overview: Selective Serotonin Reuptake Inhibitors (SSRIs)*. NHS choices. Retrieved November 16, 2021, from <https://www.nhs.uk/mental-health/talking-therapies-medicine-treatments/medicines-and-psychiatry/ssri-antidepressants/overview/>.
- Nicole J. LeBlanc, M. A., & Luana Marques, P. D. (2019, August 27). *Anxiety in college: What we know and how to cope*. Harvard Health. Retrieved November 16, 2021, from <https://www.health.harvard.edu/blog/anxiety-in-college-what-we-know-and-how-to-cope-2019052816729>.

- Olfson, King, M., & Schoenbaum, M. (2015). Benzodiazepine Use in the United States. *JAMA Psychiatry* (Chicago, Ill.), 72(2), 136–142.  
<https://doi.org/10.1001/jamapsychiatry.2014.1763>.
- Rosenzweig, S., Reibel, D. K., Greeson, J. M., Brainard, G. C., & Hojat, M. (2003). Mindfulness-based stress reduction lowers psychological distress in medical students. *Teaching and learning in medicine*, 15(2), 88-92.  
<https://jdc.jefferson.edu/cgi/viewcontent.cgi?article=1000&context=jmbcimfp>.
- Stefan, S., Cristea, I. A., Szentagotai Tatar, A., & David, D. (2019). Cognitive-behavioral therapy (CBT) for generalized anxiety disorder: Contrasting various CBT approaches in a randomized clinical trial. *Journal of Clinical Psychology*, 75(7), 1188-1202.  
<https://doi.org/10.1002/jclp.22779>.
- Terlizzi EP, Villarroel MA. Symptoms of generalized anxiety disorder among adults: United States, 2019. NCHS Data Brief, no 378. Hyattsville, MD: *National Center for Health Statistics*. 2020. Retrieved October 25, 2021, from  
<https://www.cdc.gov/nchs/products/databriefs/db378.htm>.
- Walsh, J. (2000). Anti-anxiety medications: A review for social workers. *Social work in health care*, 30(1), 31-49. [https://doi.org/10.1300/J010v30n01\\_03](https://doi.org/10.1300/J010v30n01_03).
- Zarei, P., Hashemi, T., Sadipoor, S., Delavar, A., & Khoshnevisan, Z. (2016). Effectiveness of coping strategies in reducing student's academic stress. *International journal of mental health and addiction*, 14(6), <https://doi.org/1057-1061.0.1007/s11469-016-9691-1>.