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The Pros and Cons of Beta Blockers: Doping in Music Performance

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Annotated Bibliography

Abstract

When performing in front of an intimidating panel of judges, an audience, or peers, many musicians face a common problem that's not talked about often: music performance anxiety. In this current time, every musician at least knows someone that takes a type of drug that enhances their music performance and gets rid of their anxiety. However, there's been some controversies in using drugs in music competitions and auditions, leading in the continuous practice of drug abuse, questioning ethically what's right and what's wrong, and the suspicion in cheating. In this paper will examine the pros and cons of beta blockers, with an emphasis in doping.

Dictionary/Encyclopedia Articles

1. Frey, Rebecca J., Teresa G. Odle, Laura Jean Cataldo, and William A. Atkins. "Anxiety Disorders." In *The Gale Encyclopedia of Mental Health*, 3rd ed. Detroit: Gale, 2012. <https://link-gale-com.du.idm.oclc.org/apps/doc/CX4013200040/GVRL?u=udenver&sid=bookmark-GVRL&xid=53047011>.

This article has been contributed by a strong group of collected authors, Rebecca J. Frey, Teresa G. Odle, Laura Jean, and William A. Atkins from a the field of psychology and medical field in America. The term "Anxiety Disorders" is carefully crafted by the use of books such as "Diagnostic and Statistical Manual of Mental Health" from the American Psychiatric Association, websites from The National Institute of Mental Health, organizations such as National Alliance on Mental Illness. The sources the authors use helps distinguish the different types of anxieties and determining the level of intensity. The article goes in depth about about the meanings of "anxiety" and the factors and derivations from it. The word "anxiety disorder" is defined as "a group of mental disturbances characterized by anxiety as a central or core system" but the flaws with this term is "although anxiety is a commonplace experience, not everyone who experiences it has an anxiety disorder" because it comes in different ranges of physical illness, side effects from medications known as drugs, and other mental disorders. The article helps establish a variety of different perspectives on anxiety when trying to put a label and helps establish whether the sources here listed in the annotated bibliography either interprets or misinterprets by exchanging the term loosely such as "stage fright", "music performance anxiety" or "phobia".

2. Glaza, Kevin. "Foreword." In *The Gale Encyclopedia of Prescription Drugs: A Comprehensive Guide to the Most Common Medications*, Farmington Hills: Gale, 2015. <https://link-gale-com.du.idm.oclc.org/apps/doc/CX3626600008/GVRL?u=udenver&sid=bookmark-GVRL&xid=0b251cd1>.

This foreword was formed by Kevin Glaza, an oncology pharmacist based in America. The author provides readers a better understanding of the term "drug" and provides additional services in distinguishing different types of drugs such as "prescription drugs" and "over-the-

counter drugs” and the safe practice of medication before diving into the encyclopedia. Despite being able to lecture the readers the concept of the term “drug”, there’s a specific issue the author hasn’t addressed yet in the foreword, which is the access of getting prescribed drugs with no prescription from someone that’s not a pharmacist. Glaza utilizes reliable organizations to build the foreword such as the “U.S. Food and Drug Administration” and uses his educational background experience in the medical field. This source helps establish the concept of the term “drug” to gain a better understand in distinguishing the “drug” and enforcing the safety of it, which will reflect back on to the sources written by scholars who mentions the term “drug” from the field of music.

3.Hamidovic, Ajna, and Emily Jane Willingham. "Beta Blockers." In *The Gale Encyclopedia of Mental Health*, 3rd ed. Detroit: Gale, 2012. <https://link-gale-com.du.idm.oclc.org/apps/doc/CX4013200063/GVRL?u=udenver&sid=bookmark-GVRL&xid=bbac5bbf>.

This article goes in depth in getting to know the concept and the word “beta blocker” a class of drug known for treating heart conditions and hypertension. Formulated by a group of authors, Ajna Hamidovic and Emily Jane Willingham from the field of psychology and medical, their purpose was to define, describe, and inform recommended dosage, and precautions. This article was crafted by the use of periodicals such as “Treatment of Generalized Anxiety Disorder: A Comprehensive Review of the Literature for Psychopharmacologic Alternatives to Newer Antidepressants and Benzodiazepines” from the Primary Care Companion to CNS Disorders, and websites such as the National Institute of Mental Health. One important information that will be resourceful and relevant to the sources listed in the bibliography is knowing the appropriate quantity of dosage when taking beta blockers, which will help distinguish whether the use and abuse of beta blockers correlates in the idea behind doping.

4.Myerson, Ralph, Emily Jane Willingham, and Kevin Glaza. "Propranolol." In *The Gale Encyclopedia of Prescription Drugs: A Comprehensive Guide to the Most Common Medications*, Farmington Hills: Gale, 2015. <https://link-gale-com.du.idm.oclc.org/apps/doc/CX3626600246/GVRL?u=udenver&sid=bookmark-GVRL&xid=b0c04d78>.

The encyclopedia article was by Ralph Myerson, a doctor of medicine, revised by Emily Jane Willingham, PhD in biology, and reviewed by Kevin Glaza, a registered pharmacist. The word “propranolol” is defined as “a drug classified as a beta-blocker”. It may sound a bit ambiguous and vague, however, the article goes in depth by listing the appropriate purpose of the drug, what medical health issues is depended on the drug, and then mentions other purposes when using the drug as “off-label use” for non serious medical issues. Moreover, it mentions psychological uses for anxiety and recommending dosage for specific health issues and anxiety performance issues. More importantly, it lists the precautions of taking the drug and side effects, depending on the dosage and other health conditions that the individual has already such as asthma. All of this gathered information was derived from medical websites such as American Heart Association, U.S. National Library of Medicine, and other sources such U.S. Food and Drug Administration.

Scholarly Journal Articles

5. Bose, Sudip. In Praise of Flubs: The Pursuit of Perfection Has Taken All the Personality out of Recorded Classical Music. *The American Scholar* 74, no. 1 (Winter 2005). <http://www.jstor.org/stable/41221381>

Bose reflects on the New York Times article "Better Playing Through Chemistry" about the increase number of professional musicians utilizing beta blockers in order to restrict their performance anxiety. Bose acknowledges the benefits on these substances, but feels bothered that once a musician takes in these beta blockers, the true naturalness musical authenticity is not present. It doesn't seem that Bose rose any larger questions, but there were some issues along the way addressing back what the author was trying to convey. Followed by the argument, Bose uses his personal experience as trained violinist, performing concertos with orchestra and recitals in the past as a supporting evidence when it comes to performance anxiety. Although mistakes were made during his performance, he admits that he would rather play with accidental flaws and feeling the rushed adrenaline of excitement, over the idea of being drugged and sounding too "perfect". Bose then proceeds to use performance practice recordings as another way to support his argument by comparing Hilary Hahn, a perfectionist violinist that is currently active today, and Fritz Kreisler a "consummate Viennese musician" known in the early 1900's. But it doesn't support back the argument Bose implemented in the beginning with the usage of beta blockers. We don't know in this article if Hilary Hahn even used beta blockers or not. Instead the author continuous to mention in depth on performance practice recordings. Despite the lack of support, the author is against in the usage of beta blockers. The source voices mainly about the importance of authenticity with the usage of natural instincts and living in the moments, but with no supportive back up. The author is known as an editor who writes for the *American Scholar*, writing weekly classical musical columns for the past couple years. No mention of being an academic scholar, musicologist or ethnomusicology. Overall, the topic seemed about perfectionism versus authenticity, and the argument didn't appear to be relevant to the rest of the article until Bose finally mentions the practice of consuming beta blockers. Although the relevancy of this source can be a bit obscure, it helps provide flaws when it comes to identifying whether doping is in action when trying to figure out who is using the beta blockers.

6. Engelke, Luis C., and Terry B. Ewell. "The Ethics and Legality of Beta Blockers for Performance Anxiety: What Every Educator Should Know." *College Music Symposium* 51 (2011). <http://dx.doi.org/10.18177/sym.2011.51.sr.18>.

Luis C. Engelke is a professor in trumpet at Towson University and performs professionally with the Kenneth Symphony and Lancaster Symphony. Terry B. Ewell is a professor in bassoon and music theory at Towson University and remains active in orchestral performances. And through the use of scholarly journal articles mentioned here such as "Better Playing Through Chemistry", "The Use of Beta Blockers by ICSOM Musicians" and organizations such as the World Anti-Doping Agency, helps discuss the pros and cons of beta blockers with an emphasis in doping. In the opening of the article, Engelke and Ewell questioned pedagogical decisions when recommending students beta blockers. Their main point was to raise awareness and suggesting educators to be fully informed in the consequences in using beta blockers in "legal, ethical, and medical issues". The authors proceeded with important follow up questions such as "are students who study with teachers who do not include beta blockers as a

possible solution to severe performance anxiety at a disadvantage?“ and “do teachers recommend beta blockers to students make a poor ethical decision: that could even pose severe legal consequences?” Overall, Engelke and Ewell doesn't really address being against the use of beta blockers, but the evidence used in general portrays negative remarks in these substances. The relevancy of this source is crucial because it converses with other sources listed in the annotated bibliography on the takeaway of beta blockers, while determining if the presence of doping is existent or not.

7. Fishbein, Martin, Susan E. Middlestadt, Victor Ottati, Susan Straus, and Alan Ellis. “Medical Problems Among ICSOM Musicians: Overview of a National Survey.” *Medical Problems of Performing Artists* 3, no. 1 (March 1988): 1–8.

<http://www.jstor.org/stable/45440642>.

This article was conducted by a group of musicologists researchers Martin Fishbein, Susan E. Middlestadt, Victor Ottati, Susan Straus, and Alan Ellis based in America. The article provides an outline of a national survey on professional orchestra musicians based in basic demographics, health issues, mental issues, physical issues, and the medication taken in whether prescribed or not. This source is one of the first sources conducted in research to get a better understanding in the relevance of beta blockers in professional orchestra during the 1980s. The use of national surveys conducted in professional orchestra musicians helps establish their reports and gain a further understanding of the practice of taking performance enhancers associated with anxiety. Although this report is out of date, it conveys that research studies and reports are not done enough in today's presence and can assume the use of beta blockers has been increased in the music field, but not regulated. This reflects on the sources mentioned in here on the relevancy of beta blockers either with or without prescription, which is how it opens up the idea of doping being involved.

8. Packer, Clifford D., and Diana M. Packer. “β-Blockers, Stage Fright, and Vibrato: A Case Report.” *Medical Problems of Performing Artists* 20, no. 3 (September 2005): 126–30.

<https://www.jstor.org/stable/48710924>.

This article describes the pros and cons of beta blockers when it comes to stage fright and hypertension. The authors, Clifford D. Packer and Diane M., carefully specifies a singular case study of a 19 year old male violinist and uses credible sources such as Fishbein's report on “Medical Problems Among ICSOM Musicians: Overview of a National Survey” which was mentioned previously in the annotated bibliography, and utilizes various of clinical trials conducted from other researches during the timeline of 1970s and 1980s, which is around the time when beta blockers just became known. These sources help the authors compare and contrast the type of drug, number of people involved, results, and analyzing technique which has been affected or not affected by the drugs. Although the authors concluded that taking in these drugs results in the loss of adrenaline and the technique required to play, the literature search has a huge timeline difference from 1966 to 2005. The source is still relevant due to the clinical trials mentioned here is also mentioned in other sources but in a different approach.

9. Sarvestani, Mohammad Reza Jalali, Tayyebeh Madrakian, and Abbas Afkhami. "Developed electrochemical sensors for the determination of beta-blockers: A comprehensive review." *Journal of Electroanalytical Chemistry* 899 (October 2021): 115666. <https://doi.org/10.1016/j.jelechem.2021.115666>.

Coming from the field of chemistry and medical science based in Iran, Mohammad Reza Jalali Sarvestani, Tayyebeh Madrakian, and Abbas Afkhami, presents a comprehensive review of dissecting and the regulating beta blockers through the use of electrochemical sensors and further understanding the idea behind toxicity. Although beta blockers can be essential when prescribed for a variety of health issues, it is discovered that beta blockers are very toxic when taking high dosages which results in the abuse in sports, known as doping. When developing the conclusion, the group of authors relied on different types of electro analytic methods of beta blockers conducted experiments from previous case studies based on early year 2000's. They also relied on medical scholarly journals and also referenced the organization World Anti-Doping Code, which was also seen across other sources as well. This source builds relevancy by mentioning the negative effects of taking in high dosages with no prescription in order to be informed of the toxicity which helps provide additional information for the rest of the sources that has little knowledge of the beta blockers' toxicity.

Newspaper

10. Tindall, Blair. "Better Playing Through Chemistry." *New York Times*, October 17, 2004. <https://www.nytimes.com/2004/10/17/arts/music/better-playing-through-chemistry.html>

Freelance Oboist and journalist Blair Tindall, announces a growing concert of "anxiety-quelling beta blockers" on music performance. Tindall recounts a story where a flute professor, Ruth Ann McClain, loses her job due to recommending drugs to her students and asking the doctor for medication for her students. We don't know if the drugs were prescribed under her name, or perhaps students weren't allowed to get to use these drugs if they tried to ask their primary doctor. Taking from that context, Tindall questions whether musicians should be tested for drugs such as athletes. Are beta blockers "godsend or a crutch?" Is music artificial when produced under the use of beta blockers? But the main question, which reflects back to the topic paper, "Could classical music someday join the Olympics and other athletic organizations in scandals involving performance-enhancing drugs?" Sources the author uses for her newspaper article was by interviewing her friends and colleagues in the professional field of music such as the Ahn Trio, and Eroica Trio, scholarly journal articles by Charles Brantigan, a vascular surgeon in Denver who researched classical musicians using propranolol, and using the same source mentioned here, the International Conference of Symphony Orchestra Musician's survey when using beta blockers from 1987.

Books

11. Hackney, Anthony C., "Chapter 9 - Beta Blockers." *In Doping, Performance Enhancing Drugs, and Hormones in Sport*, 103-111. Chapel Hill, NC: Elsevier, 2018.

In this chapter book, Anthony C. Hackney explains the benefits and the negative side effects of beta blockers, understanding the neurological effects, and relating back to the concept

of doping in sports setting. The author relied on scholarly journal articles based on drug research in beta blockers, neurological, and nervous system, previous case reports on doping in sports performance, and comparing clinical cases involving performance enhancers between musicians and athletes. Additionally, this book chapter also references the organization World Anti-Doping International Standard, which is mentioned in other sources as well. Reflecting back into the encyclopedia article “beta blocker” from Ajna Hamidovic and Emily Jane Willingham, the source helps establish a frame on the context of health related problems and benefits, understanding how the human body works neurologically and physically, and ethically when getting involved in the terms of doping.

Video Recording

12.Schroeder, Marieke. “Stage Light, Stage Fright.” Filmed 2008. Medici TV documentary.
<https://edu-medici-tv.du.idm.oclc.org/en/documentaries/stage-light-stage-fright>

Documentary based on interviewing professional musicians in Europe such as pianist Lars Vogt and Hélène Grimaud, and vocalist Anne Sofie van Otter, directed by Marieke Schroeder. The main idea behind this document is to show these professional musicians who are being interviewed about their experiences dealing music performance anxiety and finding ways to deal with it, especially with the inclusion of beta blockers. This documentary not only uses interviews as evidence but the director and cast members who were interviewed also mentioned the history of well known music professionals such as pianist Glenn Gould, and orchestra conductor Carlos Kleiber in terms of coping anxiety and music professionalism. With these back up sources, it helps open up the topic of music performance anxiety, it’s rare seeing professional musicians talking in person about music performance anxiety since it’s frowned upon in the music industry and contributes for other sources listed here by comparing interviews from different time periods between 1980’s and 2000’s.