Test Anxiety Inflation

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NORTHERN ILLINOIS UNIVERSITY

Test Anxiety Inflation

A Capstone Submitted to the

University Honors Program

In Partial Fulfillment of the

Requirements of the Baccalaureate Degree

With Honors

Department Of

Psychology

By

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Abstract

Mental health conditions are higher than ever worldwide, despite best efforts to increase public awareness and deliver informed solutions. To account for this rise, some suggested models argue that measures taken to ameliorate mental health problems are actually contributing to their inflation through iatrogenic effects. The current proposed study seeks to identify the possibility of iatrogenic effects on test anxiety as a product of psychoeducational material. The scope of this study includes the immediate effects of viewing a typical short-form informational video on core and adjacent symptoms of test anxiety. Participants will engage with our study entirely through an online format and be asked to answer a series of questionnaires. The experimental condition will view the psychoeducational video prior to the assessment of cognitive test anxiety and will be compared with a no-video control. The current study involves deception, as the adjacent symptoms of "Increased itching" and "More rapid blinking" are included in the video and assessment but are not, in actuality, considered to be a part of test anxiety. These sham symptoms allow us to better understand the nature of suggestion as it is related to psychoeducation efforts. The findings of this study will have the potential to incite future research into moderating factors that influence iatrogenic symptoms of test anxiety. The proposed study examines only one instance of potential iatrogenic effects to address. Researchers may seek to investigate other mental health conditions using a similar design moving forward.
Introduction

Anxiety disorders affect roughly 18.1% of Americans annually (Kessler et al., 2005). Further, the majority of individuals afflicted by an anxiety disorder will experience moderate to serious impairment. Not only are the effects of anxiety substantial and pervasive, but also costly. According to Rice and Miller (1998), anxiety disorders are considered the most taxing of any mental health disorder, contributing 46.6 billion or 31.5% of total costs associated with mental health in 1990. Though effective treatments do exist, anxiety still remains under-recognized in the population (Rice & Miller, 1998). It's incumbent upon behavior researchers to better understand the workings of what has become the leading mental health condition of modern times.

As indicated in work by Zaidah (2019), it appears that anxiety, along with depression, have been on the rise. These increases have been documented all the way to the 1930’s, with no significant interruptions of this pattern in the past century. Anxiety has only continued to surge into the present day, confirming its status as a current problem not only in the United States but also worldwide. During the early part of the COVID-19 pandemic, from March to November 2020, prevalence rates of anxiety notably increased in the United States to four times that of the prevalence rates from 2019, just one year prior (Coley & Baum, 2021). Additionally, the World Health Organization indicated a 25% increase in both anxiety and depression worldwide in the first year of the pandemic (World Health Organization: WHO, 2022). Since 2020, further longitudinal research continues to indicate an alarming trend, particularly among young adults (Villaume et al., 2023).

Public health officials have turned to psychoeducational efforts and public health interventions to address the needs demanded by a growing mental health crisis. Some researchers
(e.g.; Foulkes, 2023; Haslam, 2016) have argued that such efforts are counterintuitively adding to the rise of negative mental health outcomes. This backfiring effect may explain part of mental health conditions we have seen an increase in recent years.

**Possibly Related Phenomenon**

*Unintended Effects of Intervention*

The randomized, placebo-controlled trial has become the gold standard of modern clinical trials since the mid-1950s (Shorter, 2011). At its core, the placebo effect can be defined as an unintended positive effect produced when mental or physical health improves not from the effect of treatment but instead through beliefs and expectations. Although used in scientific investigation, placebos can also be used for clinical purposes. The placebo effect appears to be most effective in ameliorating conditions of pain and depression, according to Price et al. (2008), but notably has similar effectiveness in those with anxiety disorders (Motta et al., 2023). Even if someone is aware they are taking a placebo, they may still experience benefits similar to those who are kept uninformed (Lembo et al., 2021). This observation implies that one does not need to believe that they will experience an outcome for a placebo effect to be produced.

A counterpart to the placebo effect, nocebo describes a negative, unintended effect or symptom produced by the expectation of an undesirable outcome. A nocebo is an iatrogenic effect in which negative symptoms arise on account of health care professionals and interventions. A case study by Reeves et al. (2007) describes an extreme episode of the nocebo effect. A 26-year-old male rushed to the emergency room fearing for his life after consuming an entire bottle of 29 supposedly experimental antidepressant drugs given to him as part of a clinical trial. The patient exhibited hypotension and rapid respirations while in a general state of panic.
When the study facilitators learned of this medical emergency, they returned the news by revealing that this individual was in the study’s control condition, and the pills he consumed were completely inert. Within minutes of learning this fact, the patient’s extreme symptoms reduced to a neutral state. Notably, this patient appeared to be highly suggestible. As a consequence, the authors speculated that suggestibility may be a risk factor for nocebo effects.

On the lesser extreme, nocebos are relatively common, with close to one-quarter of participants experiencing negative symptoms from clinical trials while taking placebos. Some proposed mechanisms for the nocebo effects are misattribution and conditioning. Misattribution describes a situation where participants mistakenly consider unrelated occurrences to be symptoms or side effects of a treatment or health condition (Reeves et al., 2007). Conditioning involves the learned association between negative effects and an otherwise harmless context. Negative symptoms may be produced due to the expectations from past experience. The nocebo effect is also known to influence depression and anxiety (Barsky et al., 2002).

**Dissociative Identity Disorder**

Dissociative Identity Disorder (DID) is a condition characterized by the presence of multiple distinct personalities within an individual that trade-off control of behavior. Although the symptoms of this condition vary, these separate identities have the capacity to possess their own memories independent of the other. Two opposing theories are thought to explain DID: the posttraumatic model and the sociocognitive model. The posttraumatic model suggests that identities are formed as an unconscious defense mechanism. The emergence of separate identities is thought to be a type of PTSD that compartmentalizes and reframes a previous trauma as an event that occurred to someone else (Lilienfeld et al., 1999). This model proposes a more insightful purpose for the “interdentity amnesia” associated with the condition (Gleaves, 1996).
By contrast, the sociocognitive model describes a condition evoked by “role enactment,” a generally spontaneous and unintentional process wherein identities or roles are assumed in response to a demand context. In this model, DID is a result of social influences. These can be derived from media, others with the condition, first-person experiences, and even therapy (Lilienfeld et al., 1999). Since the 1970’s, there has been an alarming prevalence increase of DID, described by some as reaching epidemic-level proportions (Boor, 1982; Elzinga et al., 1998). Due to experimental constraints, the exact origin of DID is still unclear (Lilienfeld et al., 1999). Additionally, DID also poses a dilemma for healthcare professionals. Although therapy is administered with the intention to help, iatrogenic effects may also have the negative, unintended consequence of reinforcing the therapist's biases onto client's beliefs and expectations (Bootzin & Bailey, 2005).

*Universal Interventions*

The alarming rates of mental health conditions among young adults and adolescents have led to school-based interventions as possible treatment and prevention measures (Werner-Seidler et al., 2021). A number of strategies have been employed by school systems to support the needs of young people, including both targeted and universal interventions. A targeted strategy involves an intervention employed specifically for individuals who possess symptoms or have a high-risk factor for a condition. A universal approach, by contrast, is used indiscriminately, usually delivered to an entire student body, to prevent the emergence of future symptoms (Werner-Seidler et al., 2021). Universal approaches have recently come under scrutiny in light of Montero-Marín et al. (2022) and Harvey et al. (2023), which demonstrate unintended, harmful effects of both mindfulness interventions and Dialectical Behavior Therapy (DBT), respectively. Universal school-based mindfulness interventions were shown to be
unintentionally harmful to students who were already experiencing symptoms of depression and anxiety, while for others, simply had no effect (Montero-Marín et al., 2022). Universal DBT interventions can have similar, but temporary, counterproductive effects when employed in schools (Harvey et al., 2023). Overall, it seems that a universal approach to school-based interventions involves a higher risk of unintended iatrogenic effects and, according to a systematic review by Werner-Seidler et al. (2021), also achieves less of their desired outcomes than a targeted approach.

Other Phenomenon

Concept creep describes a trend for the original meaning of psychological terms to become distorted over time. First described by Haslam (2016), examples of concept creep include colloquial usage of the words “abuse,” “bullying,” and “trauma.” According to Haslam (2016), the process of so-called semantic inflation can take the form of horizontal and vertical expansion. Horizontal inflation describes the assimilation of qualitatively new phenomena into the core concept. Vertical inflation describes a loosening of specificity within a concept such that it includes less and less extreme phenomena than the term was originally intended to capture. An instance or broader normalization of concept creep may provide insight into the association of adjacent symptoms to the presumed actual symptoms of a given condition.

Described by the philosopher Ian Hacking, looping effects involve a transformative process of internalizing labels and social characterizations that adjust our sense of self and subsequent behaviors (Hacking, 1996). These social constructs, referred to as “human kinds,” include diagnoses and categorizations such as “autism” and “child abuse,” which can serve as core parts of identity. One effect derived from this phenomenon is behavior change in line with the expectations one attributes to bearers of these identities. These behaviors ultimately
contribute back into the social understanding of the categories themselves. In this sense, a human kind loops in on itself through the revising of its own conceptualization and produces dynamic normalization where new individuals are now included in the category under the shifted definition. Looping effects provide a possible mechanism by which those with a condition may begin monitoring for or developing new adjacent symptoms that were not originally part of their experience.

**The Aims of the Current Study**

It is not clear the extent to which these phenomena are related to the increasing prevalence of anxiety. Various constructs have been suggested to explain the increasing prevalence, including hypnotic suggestibility (Lynn et al. (2015), role enactment (Lilienfeld et al., 1999), and monitoring effects (Pan et al., 2019). Suggested models include the prevalence inflation hypothesis (Foulkes & Andrews, 2023) and the mixed blessings model Haslam (2016). The current study will examine whether public health interventions for test anxiety have unintended negative effects.

**The Test Anxiety Context**

*Test Anxiety Significance*

Test anxiety is a powerful predictor of negative outcomes in educational metrics such as standardized tests, GPA, and university entrance exams (Von Der Embse et al., 2018). The phenomenon describes both cognitive and physiological feelings of stress based on anticipated negative outcomes from academic evaluations. Roughly 22% of students exhibit high levels of test anxiety, which is also known to be correlated with the onset of future anxiety, depression, and other negative outcomes (Von Der Embse et al., 2018). Test anxiety appears to
be derived, in part, from an evaluation of the self and the beliefs and expectations associated with perceived ability and external circumstances, such as the challengingness of the exam.

*Public Health Interventions are Often Used*

Institutions are motivated to take steps toward reducing test anxiety. Strategies sometimes take the form of school-based interventions, but others involve producing informational videos for broader awareness. A typical example of broad psychoeducation is a test anxiety awareness video produced by UNC (UNC Learning Center, 2016). This YouTube video contains a discussion of test anxiety symptoms, types, and solutions communicated in an engaging way for a general audience. Such videos, while intended to help address test anxiety, may also have iatrogenic effects.

**Hypotheses**

This study tests the hypothesis that a brief informational video about test anxiety will lead to higher levels of test anxiety compared to a no video control condition (Hypothesis 1).

This study also tests the hypothesis that a brief informational video about test anxiety will lead to higher levels of adjacent test anxiety symptoms compared to a no video control condition (Hypothesis 2).

**Proposed Methods**

**Participants**

Participants will be comprised of a convenience sample from Northern Illinois University. Students over the age of 18, and enrolled in the campus’s introductory psychology course, will be considered eligible for this study and contacted through their university email. Standard background information will be collected, including age, gender, race, and ethnic background. No other demographic information will be collected for the purposes of this study.
The students will provide informed consent at the time of the study, choosing to complete our survey as one of several options available to claim extra credit in their courses. Particularly because our study involves elements of deception, participants will be immediately debriefed about the nature of the study upon completion of the online survey.

*Procedure*

To incentivize participation in our study, students from Northern Illinois University will be offered extra credit in their psychology course for their time. Participants will be provided information about the nature of the study through the typical channels that they receive student emails and class announcements. Once using a link to access our survey, the study, including the questionnaires, will take place entirely through the online format, beginning with the confirmation of consent and concluding with our debriefing materials. Noted in the consent information is that participants have the liberty to freely discontinue participation at any time without penalty. Participants will be asked to view an informational video discussing symptoms and solutions to test anxiety and complete a series of questionnaires. Depending on whether the participant is in the experimental group or control, they will either be exposed to the informational video before or after completing the measures. This video includes mention of two suggested symptoms adjacent to test anxiety, including "Increased itching" and "More rapid blinking. Items assessing these symptoms are included with items of the Cognitive Test Anxiety Scale (CTAS) assessment. Once all steps are completed, participants will be thanked for participation and immediately debriefed using the debriefing form. This debriefing includes clarification on the deceiving information presented to them regarding test anxiety.

*Measures*
Test Anxiety. The Cognitive Test Anxiety scale (CTAS; Cassady & Finch, 2015; e.g., “I lose sleep over worrying about examinations”) is a 17-item self-report measure of test anxiety (Cassady & Johnson, 2002). Responses were measured on a four-point scale ranging from 1 (not at all typical of me) to 4 (very typical of me). This measure has demonstrated reliable psychometric properties in prior studies (Cassady & Johnson, 2002). Two additional items (“When I take a test that is difficult, I notice myself itching more often than I normally would.” and “When I take a test, my nervousness causes me to blink more rapidly than usual.”) were added to this measure and analyzed separately.
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