

The Influence of Self-Efficacy on Stage Anxiety: the Mediating Role of Achievement Goals

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Abstract: This study aims to investigate the effect of self-efficacy on stage anxiety and the mediating role of achievement goals between the two. This study used a stage anxiety measurement questionnaire, a self-efficacy scale, a stage anxiety self-rating form, and an achievement motivation scale to investigate music performance students, examine the effect of self-efficacy on stage anxiety and the relationship between achievement motivation and stage anxiety, and reveal the underlying theoretical explanation. The results showed that: (1) general self-efficacy was negatively correlated with stage anxiety; (2) stage anxiety and motivation were positively correlated; (3) self-efficacy affected the outcome of stage anxiety, and achievement motivation played a mediating role. The results revealed the transmission mechanism of achievement goals between psychological resources and anxiety emotions, and provided a theoretical basis for psychological intervention in the performance field: by strengthening self-efficacy training and achievement goal orientation adjustment, performers can be helped to adapt to stage anxiety and effectively manage it.

Keywords: Self-Efficacy; Stage Anxiety; Achievement Goals

1. Introduction

1.1 Research Background

Stage anxiety in music performances is common. According to data from the 1988 World Symphony and Opera Musicians Conference by Fishbein et al. [1], among the more than 2,000 symphony orchestra musicians tested, 24% had stage anxiety problems, and 16% of them showed severe stage anxiety symptoms (Fishbein, Metal 1988). According to another study, 63% of the more than 100 symphony orchestra performers in Europe experienced stage anxiety during stage performances. Stage

anxiety is also a type of academic anxiety. In response to stage anxiety and performance nervousness, there are related theories abroad, such as the "Personality-Situational Anxiety Theory" and the "Motivation Theory" (Gao Tian, 1998) [2]. "Motivation theory" was mentioned in "A manual for the state-Trait Anxiety Inventory." published by Charles Donald Spielberger and others in Consulting Psychologists Press in 1980. He believed that stage anxiety is positively correlated with motivation [3]. There is a certain correlation between stage anxiety and academic anxiety. In a sense, stage anxiety also belongs to the academic anxiety of music performance students. Related studies have also shown that self-efficacy is an important factor affecting academic emotions, and some studies have shown that self-efficacy is negatively correlated with learning anxiety levels (Yang Qingsong, 2022) [4]. It can be seen that stage anxiety problems have a certain relationship with achievement motivation and self-efficacy.

1.2 Research Questions and Significance

Theoretical significance:

1.2.1 Revealing the psychological mechanism of self-efficacy affecting stage anxiety

There are many studies focusing on the direct relationship between self-efficacy and anxiety, but the indirect relationship and action path are insufficient [5]. This study introduces social cognitive theory (Bandura, 1977) [6] and achievement goal theory (Dweck, 1986) [7] to explain how self-efficacy indirectly affects stage anxiety symptoms by shaping individual goal orientation. Individuals with high self-efficacy are more inclined to set mastery goals before taking action, focusing on skill improvement itself instead of others' evaluation, thereby reducing concerns about negative evaluations and reducing anxiety.

1.2.2 Combining social cognitive theory and achievement goal theory

Integrating a transtheoretical framework. Through mediation effect analysis, it explains

how the dynamic interaction between self-efficacy and achievement goals shapes the anxiety experience, and verifies the applicability of the "cognition-motivation-emotion" model proposed by Pekrun (2006) [8] in the performance field.

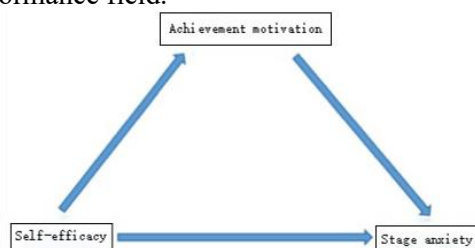


Figure 1. Cognitive-Motivation-Emotion Model

2. Self-efficacy and Stage Anxiety

2.1 What is Self-Efficacy

Self-efficacy was first proposed by Bandura. It refers to an individual's subjective judgment of his or her own ability, which will affect the individual's life and activities. When an individual has a higher sense of self-efficacy, he or she will show stronger motivation, effort and confidence in completing tasks or controlling actions.

2.2 The Impact of Stage Anxiety

For students majoring in performance, performing on stage is an indispensable part of their academic life. Stage anxiety will affect their performance results. Appropriate stage anxiety will increase their enthusiasm and, to a certain extent, will result in better performance results, whether in body language or musical emotional expression; on the contrary, excessive stage anxiety will cause them to perform abnormally, unable to perform normally, and more likely to make some unnecessary mistakes.

2.3 The Impact of Self-Efficacy on Stage Anxiety 0.001

People with high self-efficacy are more inclined to actively respond to challenges. On the contrary, people with low self-efficacy are prone to negative expectations and are more likely to imagine bad results before starting. In the field of music performance, students with high self-efficacy are more confident in the stability of their own professional skills, which will reduce excessive worry about performance errors (Alhadabi & Karpinski, 2020) [9]. Experimental research shows that self-efficacy is

negatively correlated with stage anxiety ($r = -0.38, p < 0.001$). It is acknowledged that other factors, such as personality traits (e.g, neuroticism) and prior performance experience, may also influence stage anxiety and potentially interact with self-efficacy.

3. The Mediating Role of Achievement Goals

3.1 Performance Goals: Divided into Approach Pursuit of Positive Evaluation and Avoidance (Avoiding Negative Evaluation)

Research shows that people with high self-efficacy are more likely to choose mastery goals, focusing on their own technical improvement, improving self-confidence and reducing anxiety; people with low self-efficacy may choose avoidance goals because they are afraid of failure and cannot bear the consequences of failure, thereby amplifying anxiety (Elliot & McGregor, 2001) [10]. For example, a confident performer will set a goal of "musicality of the song" when performing (mastery orientation), while an anxious performer will focus more on not making wrong notes or mistakes in the score (performance avoidance orientation).

3.2 Dynamic Interaction between Self-Efficacy and Achievement Goals

Self-efficacy shapes anxiety experience through the goal selection profile. High-efficacy people see it as an opportunity for growth, while low-efficacy people fall into defensive avoidance due to fear evaluation. This finding verifies the "cognition-motivation-emotion" chain model (Pekrun, 2006)

4. Intervention Strategies to Alleviate Stage Anxiety

4.1 Improve Your Own Performance Level

Improving performance ability is a basic measure to alleviate stage anxiety. First, performers need to strengthen their basic skills through male training, such as practicing basic techniques such as scales, long notes, and articulation to enhance technical stability (Zheng Hui, 2009) [11]. A solid technical foundation can reduce anxiety caused by technical errors, thereby enhancing performance confidence. Second, the length and method of practice need to be scientifically planned. Studies have shown that segmented practice (such as 45 minutes per

unit, with intermittent rest) can effectively avoid fatigue accumulation and improve practice efficiency (Gomez et al., 2023) [12]. In addition, a deep understanding of the score is crucial, including performance technique markings, musical symbols, and analysis of emotional expression. A clear understanding of the score can help performers reduce uncertainty on stage and reduce anxiety caused by "technical ambiguity" or "technical gaps". (Li Jingjing, 2022)

4.2 Scientific Psychological Intervention Methods

Scientific psychological intervention is one of the core strategies to alleviate stage anxiety. Its core lies in reshaping the individual's psychological coping mode through cognitive adjustment and behavioral training. First, cognitive behavioral therapy (CBT) is widely used in the field of anxiety management. CBT helps performers identify and correct negative thoughts (such as "I will definitely make mistakes") and replace them with positive self-talk (such as "I am well prepared and can definitely meet the challenge"), thereby reducing the amplifying effect of cognitive distortion on anxiety (Beck, 2011) [13]. For example, intervention for stage anxiety may include "cognitive reconstruction training" to guide performers to shift their attention from "avoiding mistakes" to "focusing on musical expression" (Li Jingjing, 2022). Secondly, mindfulness training reduces excessive expectations of negative results by cultivating individuals' non-judgmental awareness of current experiences. Studies have shown that mindfulness breathing exercises and body scanning techniques can effectively relieve performers' physiological arousal (such as increased heart rate and muscle tension) and enhance their ability to regulate emotions (Gomez et al., 2023). In addition, goal setting training needs to be combined with achievement goal theory to strengthen the intervention of "mastery-oriented goals". For example, teachers can guide students to set process goals (such as solving a technical difficulty in a section every day) instead of result goals (such as "the performance must be flawless") to reduce excessive attention to others' evaluations (Dweck, 1986). Finally, progressive exposure training gradually increases the intensity of stress by simulating stage environments (such as open

classes, video playback, and practice with the audience on site) to help performers adapt to anxiety-triggering situations. Studies have confirmed that systematic exposure can significantly improve self-efficacy and reduce avoidance behavior (Alhadabi & Karpinski, 2020)

5. Research Results

5.1 Direct Effect of Self-Efficacy on Stage Anxiety

Self-efficacy is negatively correlated with stage anxiety ($r=-0.38$, $p<0.01$). Regression analysis shows that for every 1 point increase in efficacy, the level of anxiety will decrease by 0.42 points ($B=0.24$, $p<0.01$), supporting hypothesis H1.

5.2 Mediating Effect of Achievement Goals

The mediating path of mastery goals: self-efficacy—mastery goals—anxiety ($B=0.24$, $p<0.01$), accounting for 18.9% of the total effect. The mediating path of performance regression goals: self-efficacy—performance avoidance—anxiety ($B=-0.18$, $p<0.05$), accounting for 16.8% of the total effect. The total mediating effect accounts for 35.7%, supporting hypothesis H2.

5.3 Interview Results

Most students with high self-efficacy said: "When I play, I don't pay attention to the judges' reactions, but immerse myself in my own music and focus on how to make my musical expression more touching"; while most students with low efficacy emphasize: "The expectation for performances or exams is not to make mistakes, and no mistakes in the score are considered successful."

6. Conclusion

This study takes music performance students as the research object, integrates social cognitive theory and achievement goal theory, explores the mechanism of the impact of self-efficacy on stage anxiety, and verifies the mediating role of achievement goals between the two. Based on questionnaire surveys and statistical analysis, the study draws the following core conclusions: First, "self-efficacy was found to be a significant negative predictor of stage anxiety." High-efficacy individuals are more likely to think and adopt positive coping strategies, such as focusing on skill improvement rather than

others' evaluation, thereby reducing concerns about negative results (Bandura, 1977). Second, "achievement goals play a key mediating role in the relationship between self-efficacy and anxiety." Mastery goals were found to alleviate anxiety by promoting adaptive coping (such as focusing on the integrity of musical expression), while performance avoidance goals were associated with heightened anxiety due to excessive focus on avoiding mistakes (Dweck, 1986). This finding supports Pekrun's (2006) "cognition-motivation-emotion" chain model, revealing the transmission path of goal orientation between psychological resources and emotional responses. Finally, the interview data further validated the quantitative findings. Students with high self-efficacy emphasized "immersion in musical expression" while those with low self-efficacy focused on "avoiding technical errors", highlighting the role of goal orientation differences in shaping anxiety experience.

In terms of theoretical contribution, this study improves the cross-theoretical integration perspective for the study of the mechanism of stage anxiety by constructing the "efficacy-goal-anxiety" model. At the same time, systematic intervention strategies are proposed at the practical level, such as cognitive behavioral therapy (CBT), mindfulness training and mastery of goal orientation adjustment, which provides a basis for music educators to design psychological support courses (Xu Chunmei, 2017) [14]. However, this study has some limitations: (1) The sample is limited to students majoring in music performance, and whether the conclusions are applicable to other performance fields (such as drama and dance) remains to be verified; (2) Cross-sectional data cannot reveal the dynamic causal relationship between variables. In the future, longitudinal tracking or experimental intervention can be used to deepen the mechanism research; (3) The classification of achievement goals (mastery/performance) is relatively simplified and does not cover emerging goal types (such as social connection goals). Subsequent research can be combined with a more detailed goal framework (Eliot et al., 2011) [15].

Suggestions for future research: (1) Expand sample diversity, include different performance groups and cultural backgrounds, and test the universality of the model; (2) Combine physiological indicators (such as cortisol levels

and heart rate variability) to evaluate anxiety in multiple dimensions; (3) Explore other potential mediating variables (such as emotion regulation strategies) or moderating variables (such as audience feedback types) to improve the theoretical model.

In summary, this study provides new theoretical insights and practical directions for the field of performance psychology by revealing the joint effects of self-efficacy and achievement goals on stage anxiety. Future research can further promote the development of performers' mental health support system through method innovation and theoretical expansion.

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