

# Effect of Music on Stress and Anxiety in Healthcare Students in Association with Examinations: A Systematic Review



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# Objectives



- Attendees will understand the benefit of playing music before or during examinations in undergraduate nursing students.
- Attendees will identify the physiological effects after students listen to music in the examination environment.

# Background



- Student PT's experience significant stress and anxiety while taking both written and objectively structured clinical examinations (OSCE)<sup>1</sup>.
- Stress/anxiety can negatively impact students examination scores<sup>2</sup>:
  - Inaccurate depiction of students knowledge
  - Decreases self-esteem
  - Results in unnecessary re-take/attrition

# Background

- Music is a relaxing therapy tool for mental health<sup>2</sup>
- Impact of music on students examination performance?

# Purpose



Determine the effect of music on stress and anxiety in healthcare students in association with completing written and objectively-structured clinical examinations (OSCEs).

# Methods



- Databases:
  - Proquest
  - ScienceDirect
  - PubMed
  - CINAHL

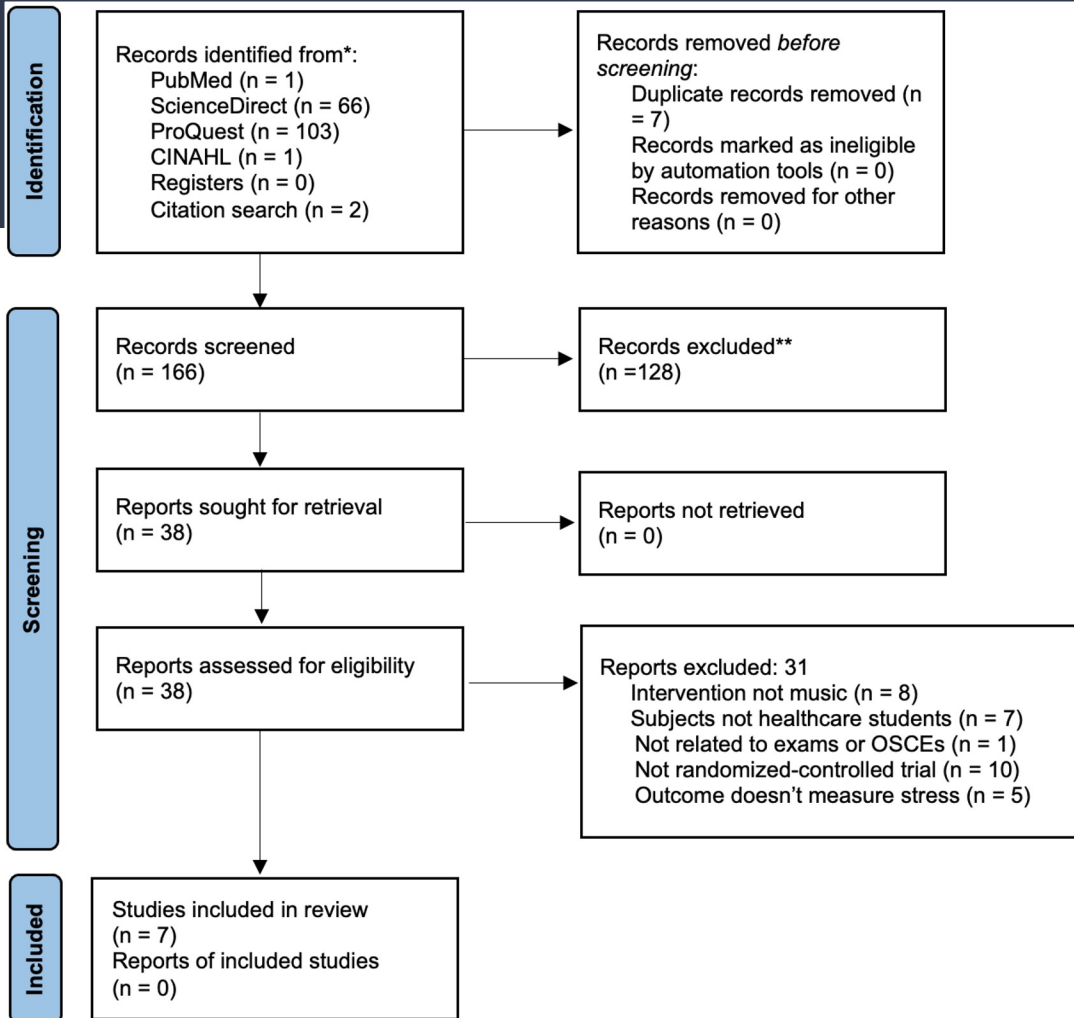
- Search terms
  - Students AND (examinations OR objectively structured clinical examinations OR OSCE) AND music AND (“testing anxiety” OR “examination anxiety”).

# Methods

- Selection Criteria:
  - Randomized control trial
  - Health profession student
  - Undergraduate or graduate student
  - Male or female
  - Over 18 years old



# PRISMA



# Results



- Sample Size
  - Range: 38-125 participants
  - 522 total participants
- Average age of participants in each study ranged from 18-23 years
- Students were taking either a written exam or OSCE
- Intervention parameter
  - Music administered before, during or after exam
  - Intervention sessions ranged from 15-60 minutes
  - Music genres included classical, Turkish, light instrumental, and rhythmic design

# Results



- Primary Outcome Measures
  - Spielberg State Anxiety Inventory (STAI-state)
  - Revised Test Anxiety Scale
  - Situational Anxiety Scale
  - Visual Analog Stress Scale (VASS)

# Results



- Secondary Outcome Measures
  - Salivary and IgA samples
  - Skills Checklist
  - Vital signs- heart rate, blood pressure, SpO2, temperature
  - Self-Efficacy Scale
  - Semi Structured Focus Group Interview Form
  - Nursing Simulation Performance Scale
  - Music Preference Survey
  - Exam performance

# Results



- 5 out of 7 studies demonstrated a significant decrease in stress and anxiety among nursing students<sup>3, 6, 7, 8, 9</sup>
- Secondary Improvements
  - Cortisol and salivary IgA<sup>3</sup>
  - Decreased vitals<sup>4, 6, 7, 9</sup>
  - Increased exam performance<sup>8</sup>

# PEDro Score

	1	2	3	4	5	6	7	8	9	10	11	Score
<b>Inangil</b>	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	<b>9</b>
<b>Lai</b>	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	<b>9</b>
<b>Gosselin</b>	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	<b>9</b>
<b>Son</b>	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	<b>10</b>
<b>Mojarrab</b>	Y	Y	Y	Y	N	N	N	Y	Y	Y	Y	<b>8</b>
<b>Eyuboglu</b>	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	<b>10</b>
<b>Gebhart</b>	Y	Y	Y	Y	N	N	Y	N	N	Y	Y	<b>7</b>

Mean  
8.86

# Conclusion



- There is strong evidence that supports the utilization of music before or during written examinations and OSCEs to assist in reducing health profession student's level of stress and anxiety.
- Limitations
  - Results were directly related to nursing students
  - Small sample size
  - Lack of uniformity in music protocols

# Future Research



- Larger sample size
- Music therapy for physical therapy students
  - Incorporating each year within DPT program
- Personal preferences of music
- Academic relevance
- How does music affect performance anxiety..



# Clinical Relevance



- Music = a feasible option for reducing health profession students' level of stress and anxiety
  - Provided either before OR during examinations

# Clinical Relevance

- The findings are specific to nursing students
  - A variety of health profession students who may benefit from music intervention to reduce stress and anxiety
  - Allow students to demonstrate knowledge rather than be limited by perceptions of stress and anxiety
    - Increased test scores and satisfaction with education

# Acknowledgments



Thank you

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# References



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