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Competitive Anxiety and Basketball Performance: A Systematic Review Protocol

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ADMINISTRATIVE INFORMATION

Support - This review has received no specific funding.

Review Stage at time of this submission - Data analysis.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 8 October 2026 and was last updated on 13 November 2026.

INTRODUCTION

Review question / Objective What is the relationship between competitive anxiety and basketball-specific performance in basketball players?

This systematic review aims to synthesise evidence from published original journal articles examining directly measured competitive anxiety and basketball-specific performance. It will consider state and trait anxiety, including cognitive and somatic components, in naturally occurring competitive situations and experimentally induced anxiety conditions.

Performance outcomes will include basketball-specific physical, technical, tactical, cognitive and decision-making measures, as well as overall game performance. Experimental, quasi-experimental and observational studies will be considered, with comparisons between anxiety levels or experimental conditions where applicable.

The review will examine how findings differ according to anxiety type, measurement timing, participant characteristics, study design and the basketball performance measure used. It will also assess methodological quality and identify research gaps. Findings will be synthesised narratively; no meta-analysis is planned.

Rationale Basketball requires players to execute technical skills and make rapid decisions in competitive situations. Understanding how competitive anxiety relates to these aspects of performance is relevant to both research and practice. A basketball-specific synthesis can distinguish findings concerning individual skills, such as free-throw shooting, from findings concerning tactical decisions and overall game performance.

Competitive anxiety should not be treated as a single, uniform variable. State and trait anxiety, cognitive and somatic components, and measurements taken at different times may show different relationships with performance.

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Experimental studies and observational studies also address different questions and require separate interpretation.

This review will organise the evidence around these distinctions and evaluate the methodological strengths and limitations of the included studies. Particular attention will be given to whether anxiety was directly measured, rather than inferred solely from pressure manipulations or physiological arousal. The review aims to clarify what the available evidence supports, identify remaining uncertainties and inform future basketball research and psychological preparation.

Condition being studied The condition of interest is competitive anxiety in basketball players and its relationship with basketball-specific performance.

Competitive anxiety refers to anxiety experienced in relation to sporting competition or the evaluation of sporting performance. It includes competitive state anxiety, which fluctuates across situations and time, and competitive trait anxiety, which reflects a relatively stable tendency to experience anxiety in competitive situations. Cognitive components include worry and negative expectations, while somatic components include perceived bodily tension and physiological activation.

The review covers directly measured anxiety in actual competitions and experimental basketball contexts. Exposure to competitive pressure alone will not be treated as evidence of anxiety. Self-confidence may be considered alongside anxiety but will not be used as a substitute for an anxiety measure. Clinical anxiety disorders and general or social anxiety unrelated to basketball performance are outside the scope of this review.

METHODS

Search strategy Searches have been conducted in Scopus, Web of Science Core Collection, PubMed, SPORTDiscus, and China National Knowledge Infrastructure (CNKI). No publication-year or language restrictions were applied.

The English-language searches combined basketball-related terms with anxiety-related terms. The core search concepts were:

(basketball* OR "basket ball" OR "free throw" OR "free throws") AND (anxi* OR CSAI* OR SCAT OR "SAS-2" OR SAS2 OR STAI OR "MRF-3" OR MRF3).

Search syntax and fields were adapted to each database. PubMed searches additionally included the MeSH terms "Basketball" and "Anxiety". SPORTDiscus searches used the Title or Abstract field. The CNKI search combined the Chinese subject terms “篮球” AND “焦虑”.

Performance terms were not required in the database searches to reduce the risk of missing relevant studies. Eligibility concerning basketball-specific performance will be assessed during screening.

Supplementary searching will include Google Scholar and backward and forward citation searching of relevant studies. Searches will be updated before submission of the review. The exact search strategies, search dates, and numbers of records retrieved will be documented. Records will be combined and deduplicated before screening.

Participant or population Basketball players of any sex and competitive level, including youth, university, and adult athletes. Studies involving basketball players who participate in organized basketball training or competition will be eligible.

Intervention Competitive anxiety experienced by basketball players, including naturally occurring or experimentally induced anxiety. Eligible forms of anxiety include state anxiety, trait anxiety, cognitive anxiety, somatic anxiety, and pre-competition anxiety, provided that anxiety is directly assessed using a recognized measure.

Comparator Lower levels or absence of competitive anxiety, where applicable. Comparisons may include athletes with lower versus higher anxiety levels, different levels or dimensions of competitive anxiety, control or lower-pressure conditions, or within-participant comparisons across different anxiety levels. A formal comparator will not be required for eligible observational studies examining the association between competitive anxiety and basketball performance.

Study designs to be included Experimental studies, quasi-experimental studies, and observational studies (including cross-sectional and longitudinal studies) will be included. Randomized controlled trials, non-randomized controlled trials, and studies without a control group will be considered eligible if they investigate the association between competitive anxiety and basketball-specific performance outcomes.

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Eligibility criteria Studies will be eligible if they meet the following criteria: (1) participants are basketball players of any sex and competitive level; (2) competitive anxiety is directly assessed using validated instruments or recognized measures, including state, trait, cognitive, somatic, or pre-competition anxiety; (3) studies examine basketball-specific performance outcomes, including technical, tactical, cognitive, decision-making, or overall game performance; (4) studies are original research articles published in peer-reviewed journals. Studies will be excluded if they do not involve basketball players, do not assess competitive anxiety directly, do not report basketball-related performance outcomes, or are conference abstracts, dissertations, theses, reviews, or non-original publications.

Information sources Electronic databases will be searched from inception to the date of the final search. The following databases will be included: Scopus, Web of Science Core Collection, PubMed, SPORTDiscus, Google Scholar, and China National Knowledge Infrastructure (CNKI). Additional studies will be identified through screening the reference lists of included articles and relevant reviews. No restrictions will be applied regarding publication year or language. Only peer-reviewed published journal articles will be considered eligible.

Main outcome(s) The main outcomes of interest are the relationship between competitive anxiety and basketball-specific performance. Basketball performance outcomes include technical performance (e.g., shooting, passing, dribbling, and other skill execution), tactical performance, decision-making performance, cognitive performance related to basketball tasks, and overall game performance. Competitive anxiety will be assessed as the main psychological factor, including state anxiety, trait anxiety, cognitive anxiety, somatic anxiety, and pre-competition anxiety.

Additional outcome(s) Additional psychological variables, including self-confidence, perceived competitive pressure, perceived probability or cost of failure, and other related psychological responses, will be extracted when reported.

Data management Records retrieved from electronic databases will be imported into reference management software for duplicate removal. Screening and data extraction will be conducted using standardized forms. The extracted information will include study characteristics, participant characteristics, anxiety measurements, basketball performance outcomes, and relevant methodological details. Data will be managed using Microsoft Excel spreadsheets. Any disagreements during study selection or data extraction will be resolved through discussion or consultation with a third reviewer.

Quality assessment / Risk of bias analysis The methodological quality and potential risk of bias of the included studies will be assessed using the Joanna Briggs Institute (JBI) Critical Appraisal Checklists according to study design: Analytical Cross-Sectional Studies (8 items), Quasi-Experimental Studies (9 items), and Randomized Controlled Trials (13 items). Two reviewers will independently assess the included studies. Any disagreements or uncertainties will be resolved through discussion, with guidance from the supervising author when necessary. Appraisal results will be reported at the item level and considered when interpreting the findings.

Strategy of data synthesis This systematic review will employ a narrative synthesis approach due to the expected heterogeneity in study designs, competitive anxiety measurements, and basketball performance outcomes. The characteristics and findings of included studies will be summarized using tables and descriptive analysis. Studies will be synthesized according to anxiety type (state, trait, cognitive, somatic, and pre-competition anxiety), assessment timing, study design, participant characteristics, and performance domains (technical, tactical, decision-making, cognitive, and overall game performance). The methodological quality of included studies will be considered when interpreting the findings.

Subgroup analysis Where sufficient data are available, subgroup analyses will be conducted according to anxiety type (state anxiety, trait anxiety, cognitive anxiety, somatic anxiety, and pre-competition anxiety), assessment timing (pre-competition, during competition, or post-competition), study design, participant characteristics (e.g., competitive level and age group), and basketball performance domains (technical, tactical, decision-making, cognitive, and overall game performance).

Sensitivity analysis Sensitivity analysis will not be performed due to the narrative synthesis approach and the expected heterogeneity among included studies.

Language restriction No language restrictions will be applied.

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Country(ies) involved Malaysia.

Keywords competitive anxiety; basketball; basketball performance; sport anxiety; state anxiety; trait anxiety; cognitive anxiety; somatic anxiety; pre-competition anxiety; systematic review.

Dissemination plans The findings of this systematic review will be disseminated through publication in a peer-reviewed scientific journal and presentation at relevant academic conferences. The results may provide evidence-based insights for researchers, coaches, and practitioners regarding the relationship between competitive anxiety and basketball performance.

Contributions of each author

Author 1 - Zhengjie Chen - Conceptualized the review, developed the search strategy, conducted literature screening, data extraction and quality assessment, synthesized the findings, and drafted the manuscript.
Email: gs73742@student.upm.edu.my
Author 2 - Roxana Dev Omar Dev - Supervised the study, contributed to the review methodology, provided guidance during study selection and data interpretation, critically reviewed and revised the manuscript, and approved the final version.
Email: rdod@upm.edu.my
Author 3 - Li Yuqi - Participated in literature screening, study selection, and the independent critical appraisal of included studies using the JBI checklists.

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