INPLASY

How the Natural Environment of the Golf Course Affects Mental Fatigue in Golfers: Healing or Hindrance? A Systematic Review and Conceptual Model

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INTRODUCTION

Review question / Objective How the Natural Environment of the Golf Course Affects Mental Fatigue in Golfers: Healing or Hindrance?

Rationale Golf is a sport played in picturesque natural environments, and based on the core principles of Attention Restoration Theory, the natural environment of a golf course has the potential to alleviate mental fatigue. However, this restorative effect may be constrained by the actual competition environment and task demands, which could weaken or even reverse this restorative effect. This raises a key research question: Is the natural environment of the golf course a source of mental fatigue for golfers, or is it a means of alleviating it?

Condition being studied In competitive golf, golfers must repeatedly analyse the natural course environment based on ball position, including factors such as wind speed, wind direction, distance, and terrain features, to develop playing strategies. Sustaining focused attention for approximately five hours without a break during a competitive task can lead to mental fatigue, ultimately affecting technical performance in golfers. However, research on coping strategies for mental fatigue among competitive golfers remains limited.

METHODS

Search strategy As of November 11, 2024, this review systematically searched electronic databases, including Web of Science, PubMed, and Scopus. The search string used was: (course OR nature OR environment OR wind OR elevation OR fairway OR green OR bunker OR tree) AND (performance OR skill OR strategic OR decision) AND (golfer).

Participant or population Involve competitive golf athletes.

Intervention N/A.

Comparator N/A.

Study designs to be included Including quantitative, qualitative, and mixed-methods studies.

Eligibility criteria (1) involve competitive golf athletes; (2) discussions or conclusions must address golf performance (including but not limited to physical, psychological, cognitive, technical, tactical, or decision-making aspects); (3) discussions or conclusions must examine the relationship between natural factors of the golf course and golf performance (including but not limited to any form of challenge or recovery); (4) empirical studies reporting original research results (including quantitative, qualitative, and mixed-methods studies); (5) articles written in English; and (6) articles providing full-text access.

Information sources Web of Science, PubMed, and Scopus.

Main outcome(s) In a 5-hour golf competition without halftime breaks. This prolonged cognitive load leads to mental fatigue. Therefore, the natural environment of the golf course serves as a source of stress and challenge for professional golfers rather than a means of psychological recovery. The impact of the natural environment on competitive golfers' mental fatigue may not be dualistic, with the course environment acting as a trigger for mental fatigue rather than a means of alleviating it. Furthermore, this review constructs a conceptual model based on constraint theory. The model emphasises the interaction between the individual, environment, and task, revealing how golfers adjust their decisions and execution strategies based on environmental and task constraints. This provides theoretical support for real golf competition scenarios and offers a new perspective for exploring the impact of natural sports environments on athletes' psychology and cognition.

Data management The specific workflow is as follows: (1) record search results from each database; (2) use the "English" filter in databases to exclude non-English articles; (3) import records into EndNote 20 for literature management and remove duplicates; (4) manually screen titles and abstracts to ensure relevance to the review's theme; (5) conduct a full-text review of the selected articles.

Quality assessment / Risk of bias analysis This review utilised Crowe's Critical Appraisal Tool (CCAT) to assess the quality of the included studies. The tool was deemed appropriate for this study because it accommodates various research designs, including quantitative, qualitative, and mixed-methods studies. CCAT comprises eight categorical items: Preliminary, Introduction, Design, Sampling, Data Collection, Ethical Matters, Results/Findings, and Discussion. Each category is scored on a 5-point scale, with a maximum total score of 40 points. The CCAT User Guide provides detailed explanations for scoring each category.

Strategy of data synthesis This study utilised ATLAS.ti 25 to analyse the literature review, extracting codes and categories and refining themes from the raw data. The process followed the six-step thematic analysis framework proposed by Braun & Clarke (2006), which includes (1) familiarising with the data, (2) generating codes, (3) identifying themes, (4) reviewing themes, (5) defining themes; (6) interpreting themes.

Subgroup analysis This study utilised ATLAS.ti 25 to analyse the literature review, extracting codes and categories and refining themes from the raw data. The process followed the six-step thematic analysis framework proposed by Braun & Clarke (2006), which includes (1) familiarising with the data, (2) generating codes, (3) identifying themes, (4) reviewing themes, (5) defining themes; (6) interpreting themes.

Sensitivity analysis This study utilised ATLAS.ti 25 to analyse the literature review, extracting codes and categories and refining themes from the raw data. The process followed the six-step thematic analysis framework proposed by Braun & Clarke (2006), which includes (1) familiarising with the data, (2) generating codes, (3) identifying themes, (4) reviewing themes, (5) defining themes; (6) interpreting themes.

Language restriction Exclude non-English articles.

Country(ies) involved Malaysia and China.

Keywords golf course; natural environment; strategic decision-making; cognitive load; mental fatigue; model.

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