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Systematic Literature Review : The Influence of Self Talk on Ultra Marathon Runners

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ABSTRACT

Self-talk plays a role as a source of motivation, enabling athletes to reignite their spirit or gain the drive to improve their abilities through self-confidence, believing in their capability to overcome the anxiety they experience. This study aims to determine the effectiveness of self-talk in Ultramarathon runners. Self-talk is one of the methods used to help runners develop better self-confidence. The research method employed is a Systematic Literature Review guided by PRISMA. Literature searches were conducted using the Google Scholar and Publish or Perish databases. Out of 200 articles found, 14 journals were selected for review through a systematic inclusion and exclusion process. The literature search was limited to specific criteria and years, and only included articles published in nationally or internationally indexed and accredited journals. Based on the results of the study, it was concluded that self-talk can enhance students' self-confidence and mental health. Self-talk plays an important role in sports, as it can be used to help control thoughts and emotions both before competitions, during competitions, and in other activities undertaken.

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1. INTRODUCTION

An "ultra-marathon" is a running race that covers a distance longer than a marathon, which is 42.2 km (26.2 miles) (Wahyu, 2023). Ultra-marathons can be either distance-limited or time-limited. In distance-limited races, the goal is to run a specific distance in the shortest possible time. Common distances for distance-based ultra-marathons include 50 km (31.1 miles), 80.5 km (50 miles), 100 km (62.1 miles), and 161 km (100 miles) (Scheer et al., 2020). In time-limited races, the goal is to run as far as possible within a set time. Common durations for time-based ultra-marathons include 6 hours, 12 hours, 24 hours, and 48 hours. These events often involve multiple stages of running held over several consecutive days (Deusch et al., 2021).

Since ultra-marathon running (or "ultra-running") became an organized sport in the 1970s and 1980s, there has been considerable interest in the psychological effects of ultra-running and in the psychological characteristics of ultra-runners. Ultra-marathon running has gained significant popularity worldwide over the past few decades (Rasmussen et al., 2013). With this popularity has come increased interest in investigating participation trends and performance in ultra-endurance events, especially in ultra-running (Shoak et al., 2013; Stöhr, Nikolaidi, et al., 2021).

This popularity should ideally be supported by various aspects, particularly those closely related to ultra-marathon running. However, there is still limited research that underpins the performance of ultra-marathon runners, particularly studies focusing on psychological processes (Brace et al., 2020). The psychological effects of prolonged endurance training and the psychological attributes of athletes who successfully engage in it are of great interest to psychologists and sports scientists (Latinjak & Hatzigeorgiadis, 2021).

Psychological Skills Training (PST) can enhance endurance performance (A. McCormick et al., 2018a). An athlete not only requires physical and technical training but also psychological skills training (PST) (Hidayat et al., 2022). Two of the most commonly used psychological strategies are self-talk (ST) and mental imagery (MI) (Hardy et al., 2018).

Self-talk is a psychological strategy used to regulate thoughts, emotions, and behavior within the context of sports performance (Borrajo et al., 2024). Self-talk can be categorized into instructional self-talk (I-S.T.) and motivational self-talk (M-S.T.) (Hidayat et al., 2023). I-S.T. focuses on technique and skill execution (Bellomo et al., 2020; Hidayat et al., 2023), whereas M-S.T. aims to enhance confidence and motivation (Hidayat et al., 2023; Park et al., 2020). This aspect is highly relevant in endurance sports, where activities are performed over extended periods, involve repetitive movements, and where athletes may spend some of their time engaging in self-talk (Joniton et al., 2024).

Self-talk interventions appear to have a positive effect on endurance performance in running, cycling, and swimming (Barwood et al., 2015; Blanchfield et al., 2014; Hatzigeorgiadis, 2014; Latinjak et al., 2017; McCormick et al., 2018; Wallace et al., 2017). Running falls into this category of sport, characterized by continuous, dynamic activity involving the whole body over medium to long distances (McCormick & Anstiss, 2020). This type of physical training requires athletes to stay motivated and persevere through challenges (pain, injury, etc.) and the demands of the activity itself (temperature, hydration, etc.) (McCormick & Anstiss, 2020), and various forms of self-talk may be employed as a strategy to manage these challenges (McCormick & Anstiss, 2020).

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For example, Van Raalte et al. (2015) found that 88% of marathon runners used some form of self-talk during the race: motivational, associative, dissociative, goal-oriented, mantra-based, or spiritual self-talk. Self-talk has played a very important role in sport psychology and is supported by both athletes and coaches as a useful tool to build confidence, maintain motivation and focus, and improve technique (Galanis et al., 2016).

Based on the above explanations, the author attempts to present further findings regarding self-talk in ultra-marathon runners through a systematic literature review approach.

2. METHODS

This study employs a systematic literature review method, which is an approach used to identify, evaluate, and interpret all available research relevant to a particular issue, topic, or phenomenon. A Systematic Literature Review (SLR) is a methodology aimed at collecting and evaluating studies related to a specific focus topic, with the goal of identifying, assessing, and interpreting all relevant studies that address a specific research question. The objective of a systematic literature review is to identify, evaluate, and interpret all available studies within a relevant research field of interest, guided by specific research questions.

The data used in this study are sourced from accredited national and international journals and are obtained from databases such as Google Scholar, Taylor & Francis, PubMed, DOAJ, and ScienceDirect, all of which are relevant to the topic *Motivational Self-Talk in Endurance Sports: Ultra-Marathon*. The selected articles are those published within the last 10 years, from 2014 to 2024. The criteria for article selection are as follows: (1) Application of self-talk in endurance sports, (2) Ultra-marathon runners, and (3) Published within the last 10 years. These articles are then further analyzed using the PRISMA method, which includes several systematic review stages: (1) Data identification, (2) Data screening, (3) Eligibility assessment, and (4) Inclusion of data for final review.

The literature search was conducted in January 2024 using databases such as Google Scholar, PubMed, Taylor & Francis, DOAJ, and ScienceDirect. These databases, which target diverse audiences, were selected due to our aim of gathering research related to individuals' experiences with endurance performance. The search strategy incorporated keywords developed in accordance with the specific objectives of our investigation, as follows: ("Self-Talk" OR "PST" OR "psychological skill training" OR "psychological skill" OR "motivational self-talk" OR "keterampilan psikologi") AND ("Endurance" OR "Endurance Performance" OR "Endurance Athlete" OR "Atlet Daya Tahan" OR "Daya Tahan" OR "Performa Daya Tahan" OR "Running" OR "Lari" OR "Marathon" OR "Ultramarathon" OR "Mental").

Figure 1 illustrates the flow diagram related to the search and selection process of the studies included in this systematic literature review.

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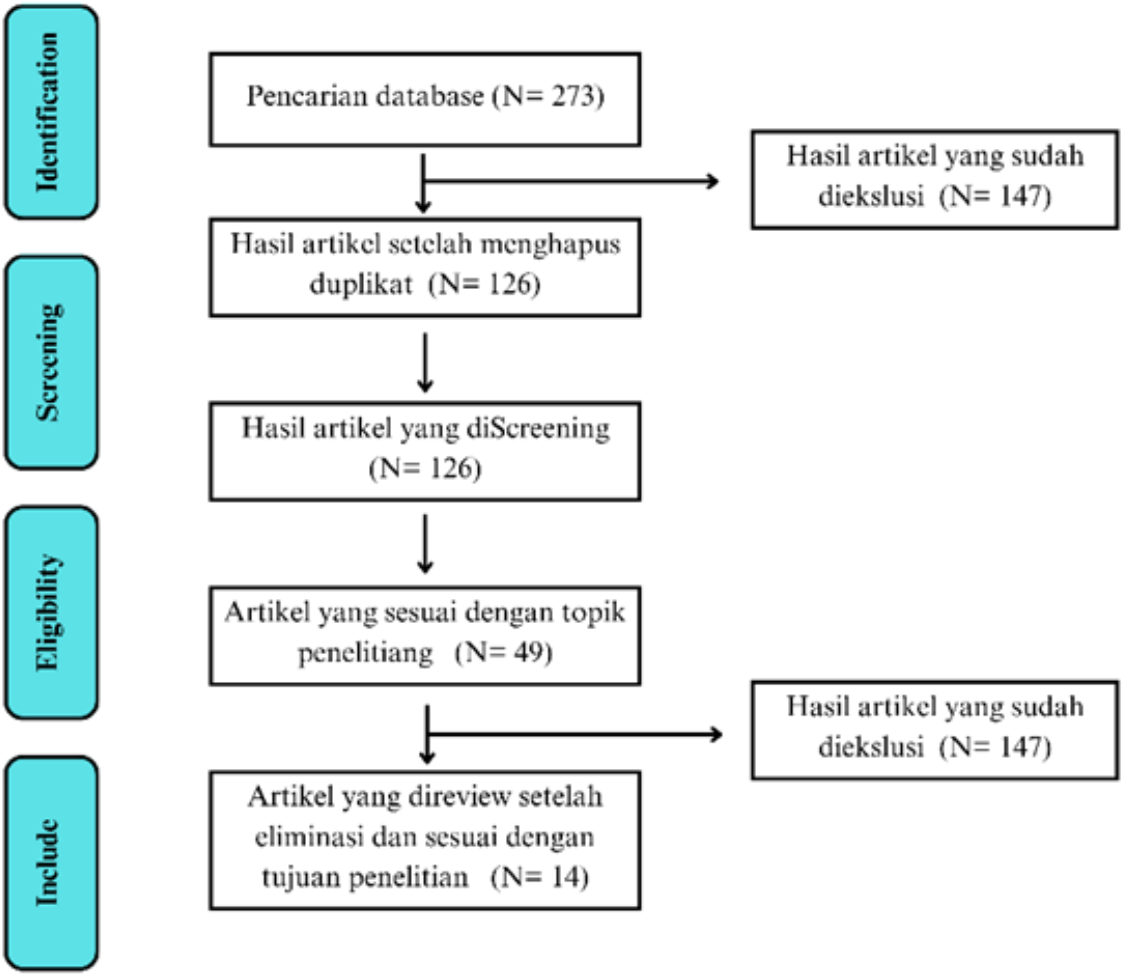

Figure 1. Metode PRISMA

Eligibity Criteria

To be considered for inclusion in this review, studies had to meet the following eligibility criteria: articles published in indexed journals; articles that provide recommendations regarding self-talk (ST); studies that include explanations and information about the recommendations and guidelines to be followed, such as type of sport, volume, and intensity; and articles published in either Indonesian, Melayu or English. Once all these criteria were fulfilled, the article was deemed eligible to be used as a reference, as it provided a clear and credible source for the researchers.

Data Exclusion and Analysis

The extracted data were evaluated by the researchers, who independently reviewed the titles and abstracts of the articles found, taking the eligibility criteria into account. If an article was initially selected but later found not to meet the criteria, it was excluded from the final results. Only articles deemed eligible by the researchers were included in the final analysis.

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3. RESULT

Study Selection

Initially, a total of 273 studies were identified across different databases. After removing duplicates, 126 studies remained, with 147 studies excluded after reviewing their titles and abstracts. As a result, 49 articles were reviewed in full text and evaluated based on the eligibility criteria. Of these, 35 articles were excluded for not meeting the proposed criteria. Ultimately, this review includes a total of 14 articles. Within these articles, recommendations can be found either for a single population group or guidelines for multiple populations regarding the impact of self-talk on marathon runners.

Study Characteristics

For each included study, the study population, concepts, methods, and relevant findings are summarized in Table 1. These studies are categorized into six subcategories. The number of studies in each subcategory is as follows: (i) personality traits of ultra-runners – 1 study, (ii) mood or emotions of ultra-runners – 4 studies, (iii) cognitive processes of ultra-runners during races – 2 studies, (iv) pain perception in ultra-runners – 1 study, (v) motivation of ultra-runners to engage in ultra-running – 7 studies, and (vi) ultra-runners' responses to sport psychology interventions – 3 studies.

Due to this methodological diversity and the impracticality of using a single quality assessment tool—or even a small number of tools—to evaluate the methodological quality of all included studies, a risk of bias assessment was not conducted as part of this narrative review.

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No	Author	Title	Years	Age of Sample or Participant	Methods or Type of Data Generated	Nature And Extent of Self-Talk, If Relevant	Concevtualization of Self-Talk	Impact Of Self-Talk on Ultra Marathon
1	Alister McCormick1, Carla Meijen2, and Samuele Marcora2	Effects of a Motivational Self-Talk Intervention for Endurance Athletes Completing an Ultramarathon	2017	Peserta dalam penelitian ini adalah peserta ultramarathon melibatkan 14 peserta dalam kelompok self-talk dan 15 peserta dalam kelompok kontrol.	Metode wawancara awal yang dilakukan melalui video call dan telepon dengan para partisipan Studi ini juga menggunakan survei untuk mengumpulkan data	Dalam studi tersebut, sifat dan tingkat self-talk diperiksa dalam konteks ketahanan atlet yang menyelesaikan ultramarathon menjadi strategi psikologis yang berharga dalam pertandingan ketahanan.	Dalam studi tersebut, self-talk dikonseptualisasikan sebagai verbalisasi atau pernyataan yang ditujukan pada diri sendiri yang memiliki berbagai fungsi, termasuk motivasi, asosiatif, disosiatif, terkait tujuan, insentif, mantra, dan self-talk spiritual	Dampak self-talk pada Studi ini menemukan bahwa intervensi self-talk yang memotivasi tidak secara signifikan mempengaruhi efikasi diri sebelum acara, kontrol yang dirasakan, atau kinerja selama ultramarathon.
2	Anthony W. Blanchfield1, James Hardy1, Helma M. de Morree2, Walter Staiano3, and Samuele M. Marcora3	Talking Yourself out of Exhaustion : The Effects of Self-Talk on Endurance Performance	2013	Usia peserta penelitian berkisar antara 19,8 hingga 28,7 tahun	Studi ini menghasilkan data tentang karakteristik peserta, termasuk usia, serta data tentang suasana hati. Pengumpulan data dilakukan melalui kuesioner, pengukuran fisiologis, dan tes kinerja	Studi ini menemukan bahwa kelompok self-talk menggunakan lebih banyak pernyataan self-talk secara signifikan dibandingkan kelompok kontrol, dan motivasi self-talk digunakan secara berbeda dan lebih luas pada kelompok self-talk dibandingkan dengan kelompok kontrol	pernyataan self-talk apa pun yang telah mereka gunakan pada waktu sebelumnya untuk tes kelelahan. Dari kumpulan pernyataan diri ini, peserta mengidentifikasi hingga lima pernyataan yang dianggap memotivasi dan membandingkannya dengan 12 Pernyataan	Studi tersebut tidak secara spesifik menyelidiki dampak self-talk terhadap kinerja ultra marathon. Namun, hal ini menunjukkan bahwa penggunaan self-talk motivasional secara terpisah merupakan strategi yang efektif untuk peningkatan kinerja ketahanan,
3	Judy L. Van Raalte and Ruth Brennan Morrey	Self-Talk of Marathon Runners	2015	Participant dalam penelitian ini terdapat 483 pelari	Penelitian ini menggunakan kuesioner laporan diri untuk mengumpulkan data self-talk pelari maraton	Studi ini berfokus pada sifat dan tingkat self-talk di kalangan pelari maraton selama kompetisi.	Studi ini mengonseptualisasikan self-talk di kalangan pelari maraton sebagai fenomena multifaset, mencakup berbagai	Penelitian ini tidak secara khusus berfokus pada pelari ultra maraton. Namun, penelitian ini meneliti self-talk para pelari maraton selama kompetisi, memberikan wawasan tentang

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4. DISCUSSION

Long-distance running is a relatively new and unique discipline in the running world. It can be defined as any event that exceeds the traditional marathon distance, typically 50 kilometers or more (Scheer et al., 2020). Common events, such as 50-mile or 100-kilometer races, may take participants between 8 to 16 hours to complete, although, due to the variability of race terrain, some events may take even longer (Stöhr, Nikolaidis, et al., 2021). In recent decades, the popularity of ultra races has exploded, with the number of organized events increasing by about 400% from 2004 to 2014 (Bennett & Cary, 2023). Similarly, the database from the German Ultramarathon Association recorded 3,010 events and over 360,000 finishers worldwide in 2015, compared to only 612 events and fewer than 69,000 finishers in 2004 (Klingert et al., 2022).

Ultramarathons are often held in more extreme environments than traditional marathons (Berger et al., 2023). These courses frequently take place on trails, hills, mountainous terrain, or other challenging environments, often involving significant elevation changes, harsh weather conditions, and unstable footing (Gilpatrick, 2021).

Ultramarathons are extremely demanding, with the finish rate significantly lower than that of standard marathons. For example, in the 2014 New York City Marathon, the largest in the world, only 305 of 50,869 starters did not finish, resulting in a completion rate of 99.99% (Stöhr, Nikolaidis, et al., 2021). In stark contrast, the 2013 Comrades Marathon in Durban, South Africa—the world's largest and oldest ultramarathon—had 13,895 starters and only 10,185 finishers, yielding a 73% completion rate (Mieszkowski et al., 2020). Another major ultramarathon, the Ultra-Trail du Mont-Blanc, has a finish rate of around 65% (Mauvieux et al., 2022). These races actually represent the higher end of the spectrum, as many smaller ultramarathons have even lower completion rates.

In the world of ultramarathons, “professional” runners make up only a small fraction of total participants. For example, at the prestigious Hardrock 100 Mile ultrarace in North America, only two out of 140 runners identified themselves as professional athletes, with an additional 10–15 supported by companies, such as shoe sponsors, while holding regular jobs (Brace et al., 2020b). Ultra runners face fatigue more frequently than most athletes, and whether or not they consciously adopt distinct mental strategies, they must develop some way to cope—or they wouldn’t finish the race at all (Roebuck et al., 2020b). Ultra races have a much higher dropout rate than shorter-distance events. This is unsurprising to anyone who has run or even heard about ultramarathons (Stasiuk, 2022). A traditional 42 km marathon, often considered a major challenge, is far easier than an ultramarathon, which typically involves running two or more marathons back-to-back in a single effort (Coates et al., 2021).

Because very few ultra runners enter races with the goal of winning, and for most, simply reaching the finish line within the allotted time is the main objective, competition against others is not a primary motivation (Spenceley, 2020). Ultra running has notable effects on mood and cognitive functioning (Roebuck et al., 2020a). As shown in the results of this review, there is substantial and significant research on the psychology of ultra runners.

5. Conclusion

Psychological skills training (PST), including self-talk (ST) and mental imagery (MI), is considered essential in enhancing endurance performance. Self-talk is a psychological strategy that includes instructional self-talk (IS.T.) and motivational self-talk (MS.T.). In its motivational form, it has been shown to have a positive effect on endurance performance, including in running, cycling, and swimming.

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Runners use self-talk as a strategy to regulate their thoughts, emotions, and behaviors during prolonged activities. Self-talk plays a significant role in sports psychology, helping to build confidence, maintain motivation, and improve technique. Self-talk—particularly instructional (IS.T.) and motivational (MS.T.)—serves as a relevant psychological strategy in endurance sports.

Self-talk interventions have demonstrated positive effects on endurance performance in running. In ultramarathon running, where the activity lasts for an extended period and involves repetitive movements, self-talk becomes a valuable tool for managing thoughts, emotions, and behaviors.

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