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Does Acute Mental Fatigue Affect Service Performance in Recreational Tennis Players?

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Research Article

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Abstract

The aim of this study was to investigate the effects of mental fatigue (MF) on service performance and recovery time in recreational tennis players. A total of 57 recreational tennis players participated in this research (male= 26, female= 31). This study included four groups: the control group, 0-minute group, 10-minute group, and 20-minute group. Except for the control group, the other three groups used Instagram for 30 minutes before the test. These groups were formed based on the tennis players' waiting times after MF. The service test was performed immediately in the 0-minute group, after a 10-minute rest period in the 10-minute group, and after a 20-minute rest period in the 20-minute group. A randomized controlled experimental design was used in the study. A dependent-samples t-test was used to compare the means of the first and second services. A repeated-measures ANOVA was used to compare group means. The alpha value was determined to be 0.05. In the 0-minute group, a significant difference was observed between the first- and second-service scores ($p < 0.001$). A significant difference ($p < 0.05$) was found between the 0-minute group and all other groups. Spending 30 minutes on social media caused MF, which lowered the service scores of recreational tennis players. In this study, mental recovery began after a 10-minute break from Instagram. According to this study, disconnecting from social media for at least 10 minutes before starting a workout was effective in maintaining performance.

Keywords: Mental fatigue, Tennis, Service

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INTRODUCTION

In sports sciences, fatigue is a complex concept that significantly affects physical and cognitive performance in sports (Meeusen et al., 2021). Physical fatigue is the exercise-induced decrease in maximum power/strength output, classified as neuromuscular or muscle fatigue (Gandevia, 2001; Knicker et al., 2011). The neuromuscular changes have been linked to both the central (Gandevia, 2001) and peripheral (Allen et al., 2008) nervous systems. Mental fatigue (MF) is defined as a psychobiological condition caused by prolonged, demanding cognitive activity (Boksem & Tops, 2008; Van Cutsem et al., 2017). In some studies, the tasks used to induce MF are referred to as cognitive fatigue (Ackerman & Kanfer, 2009; MacMahon et al., 2014). However, the term 'mental fatigue' is more commonly used in the current literature (Brownsberger et al., 2013; Marcora et al., 2009; Pageaux et al., 2015; Smith et al., 2015), as it encompasses emotions and motivation rather than cognition (Van Cutsem et al., 2017).

MF has received increasing attention in sports sciences. The MF is strongly correlated with cognitive activity (Boksem et al., 2005; Li et al., 2020). However, the effects of MF are not limited to affecting cognitive performance. Fatigue induced by various cognitive tasks makes it difficult for athletes to maintain performance (Sun et al., 2021). The relationship between MF and physical performance is thought to be related to the effects of adenosine on neuromodulation during or immediately after a challenging cognitive task (Martin et al., 2018) which reduces muscle strength, and muscle fatigue reduces motivation (Di Giulio et al., 2006). Recent studies have shown that MF negatively affects endurance performance (Giboin & Wolff, 2019; Habay et al., 2023; Holgado et al., 2021). Although these negative effects appear to be independent of individual characteristics such as sex, age, or performance level, the mechanisms underlying the impact of MF on sports performance remain poorly understood because of the limited number of studies included in systematic reviews and meta-analyses, as well as the lack of homogeneity among these studies (Habay et al., 2023; Lopes et al., 2020). Research has shown that executive function (i.e., the ability to initiate and terminate, monitor/modify behavior, and plan subsequent actions) is highly correlated with successful sports performance (Gonzaga Ados et al., 2014; Vestberg et al., 2012). For example, in tennis, when the opponent's strokes tend to block the intended moves (inhibition of executive functions), the athlete must make new decisions about where the ball will land on the opponent's court. However, MF disrupts these processes (Guo et al., 2018), and its influence on subsequent physical performance remains unclear (Marcora et al., 2009).

Although the effects of MF have been examined in various athlete populations, such as rowers (Dorris et al., 2012), long-distance runners (MacMahon et al., 2014), soccer players (Smith et al., 2016), road cyclists (Martin et al., 2016), table tennis players (Le Mansec et al., 2018), and swimmers (Penna et al., 2018), studies focusing on tennis players (Filipas et al., 2024) are very limited. In groups of athletes, many cognitive tasks, such as counting backward from 1000 in 7 minutes while balancing a spirit level, the Stroop attention test, and the AX-CPT continuous performance test, have been proven to impair physical performance by causing MF (Dorris et al., 2012; Head et al., 2017; Salam et al., 2018). In addition, activities such as spending at least 30 minutes on social media, watching educational videos, and excessive video gaming all require significant cognitive effort, which could potentially result in MF (Fortes et

al., 2019; Fortes et al., 2020; Thompson et al., 2022). Among these tasks, the one closest to daily life is the use of social media on a smartphone. Furthermore, Instagram has more than 2 billion active users, and 37% of the world's internet users as of July 2025 (Demandsage, 2025). Türkiye ranks 5th globally, with 58.45 million Instagram users (Statista, 2025).

Research has shown that MF impacts performance in a variety of sports (Dorris et al., 2012; Le Mansec et al., 2018; MacMahon et al., 2014; Martin et al., 2018; Martin et al., 2016). However, no studies have examined the relationship between MF and recreational tennis performance. Investigating the effects of MF on tennis, a sport that requires constant use of high levels of attention, decision-making, and mental functions, is both theoretically and practically interesting. Additionally, the cognitive tasks used to induce MF in studies are typically laboratory-based and less related to daily life habits. Therefore, given the growing evidence that social media applications contribute to MF, it is necessary to determine the effects of these platforms on recreational tennis performance. On the basis of this information, the current study aims to investigate the effects of Instagram use on the incidence of acute MF and the effects of MF on the service performance and mental recovery time of recreational tennis players. In this context, the hypotheses of this study were as follows: 1) Spending time on Instagram leads to a decline in recreational tennis players' service performance, and 2) disconnecting from social media 10 minutes before training reduces the effects of MF.

METHOD

Study Design

A randomized controlled trial design was used in the study. All the participants arrived at least two hours before testing and handed over their phones to the researchers. This instruction was intended to highlight the impact of screen time and to prompt MF. The groups' phone use/nonuse times were controlled by the researchers. The participants were informed by the researchers when their designated usage or rest period began and ended. All participants complied with the instructions on phone usage.

Participants and Randomization

The study involved participants who consistently trained in public education for 6 to 12 months, attended 3 days a week for 2 hours per day, possessed fundamental tennis skills, engaged in recreational tennis (i.e., individuals who regularly played tennis but did not participate in professional or licensed competitions), and were active users of the Instagram application. A total of 57 recreational tennis players participated in this research. The term "recreational tennis player" used in this study is consistent with definitions found in the literature (Filipas et al., 2024; Reid et al., 2009). The participants were assigned to groups via Excel-supported counterbalanced block randomization on the basis of their practice test performance. This study included four groups: the control group, 0-minute group, 10-minute group, and 20-minute group. Except for the control group, the other three groups used Instagram for 30 minutes before the test. These groups were formed on the basis of the tennis players' waiting times after MF. The service test was performed immediately in the 0-minute

group, after a 10-minute rest period in the 10-minute group, and after a 20-minute rest period in the 20-minute group. The sample size in this study is consistent with previous research in the literature (Filipas et al., 2024; Vitale et al., 2021).

Data Collection

The participants attended the court on three separate occasions. During the first court visit, the participants' screen time was recorded, and familiarization was performed. A familiarization session was conducted 72 hours before testing. In addition, on the first day, the height (± 1 mm accuracy with a stadiometer) and body weight (± 0.1 kg accuracy with a standard scale) of all the participants were measured. During the second visit, the participants performed the service test. The service test was carried out on an indoor tennis court to minimize external influences. The participants completed the service test on a hard-surface court where they regularly trained. The rackets used by the participants during the test were previously selected by the coaches based on their skill levels. The new tennis balls used were standard match balls, and their pressure was maintained in accordance with international standards. Seven days of rest were given between the test and retest. During the third visit, the participants completed the retest measurements. This study was conducted from October 15, 2023, to October 27, 2023.

Screen time: Instagram screen time was obtained from the Actions section of the Instagram application on each participant's phone. It was automatically calculated by the smartphone based on an average daily screen time over 1 week. In this study, 7-day average screen times were used.

Service test: The participants ran two full court laps to warm up, and then performed a general warm-up. Tennis players performed 2 practice services in each box before starting the test. Tennis players executed their first service from the right of the centerline to the left of the opponent's court, and their second service from the left of the centerline to the right of the opponent's court (Figure 1). The participants served 8 balls from the baseline into each box. A target area was placed in the service box. The shots that landed in the target area were recorded as 2 points, and the correct box was recorded as 1 point. The balls landing outside the service box were given 0 points. The participants could score a maximum of 16 points for a single service box. Test-retest reliability procedures were conducted in accordance with previous research (Filipas et al., 2024). The ICC of the first and second-service test-retest accuracies were 0.83 and 0.77, respectively. ICC values greater than 0.75 indicate good reliability (Koo & Li, 2016).

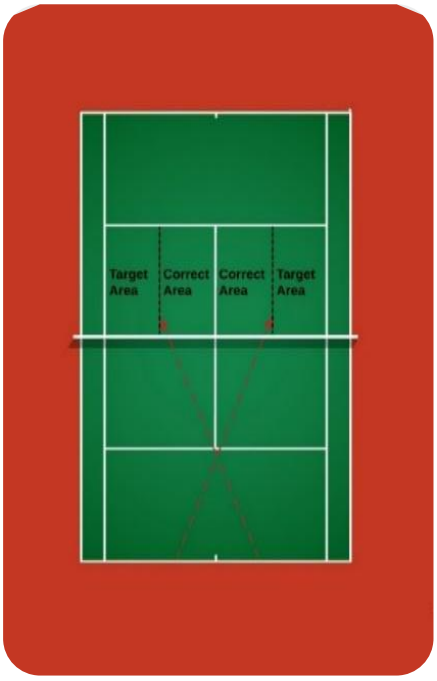

Figure 1. Service test

***Mental fatigue induction protocol*:** Except for the control group, all the groups were subjected to Instagram for 30 minutes. For the first test, the 0 min group performed the service test immediately after Instagram was used. The 10-minute group used Instagram and then conducted the service test after spending 10 minutes without their phones. The 20-minute group used Instagram and then conducted the service test after spending 20 minutes without their phones. Retest measurements were performed 7 days later following the same protocol.

Ethical considerations

The participating tennis players were informed about the study, and all necessary permission was obtained. The study was approved by the Gazi University Ethics Commission. The Declaration of Helsinki (October 2013, Brazil) was followed throughout the study.

Statistical analysis

Descriptive statistical analysis and distribution of all groups were carried out with SPSS (IBM: Version 24, NY, USA). The alpha value was determined to be 0.05. The Shapiro–Wilk test was carried out to test the normality of the distribution ($p > 0.05$). Pearson's correlation analysis was conducted on the service test-retest data. A dependent sample t-test was used to compare the first and second service averages within groups. Repeated-measures ANOVA was used for comparisons between groups. The validity of the assumption of sphericity in repeated measures was determined by the Mauchly test ($p > 0.05$). Bonferroni post hoc analysis was used when the main effect was significant. The partial eta squared (ηp^2) was classified as small: 0.2, medium: 0.5, large: 0.8 and very large: 1.3 (Cohen, 1988).

RESULTS

The characteristics of the participants are shown in Table 1.

Table 1. The participants' information

Variables	Control	0 min	10 min	20 min
n	15	14	14	14
Male/Female	8/7	5/9	7/7	6/8
Height (cm)	172.13 ± 9.35	167.92 ± 6.96	171.07 ± 9.21	170 ± 5.43
Body Weight (kg)	66.46 ± 12.05	61.28 ± 12.04	65.42 ± 16.06	65.57 ± 9.21
BMI (kg/m^2)	22.25 ± 2.28	21.60 ± 3.21	22.07 ± 3.54	22.62 ± 2.49
Age (years)	31.33 ± 2.84	31.35 ± 2.09	30.85 ± 2.21	30.92 ± 3.17
Screen time (per day, min)	75.93 ± 40.96	72.85 ± 36.14	64.28 ± 33.74	69.50 ± 48.23

Mean ± standard deviation, BMI = body mass index, min = minutes.

When the descriptive characteristics presented in Table 1 were examined, no statistically significant differences were found among the control group, 0 min, 10 min, and 20 min groups in height, body weight, BMI, and age ($p > 0.05$). Additionally, no statistically significant differences were observed in Instagram use duration among the control group, 0 min, 10 min, and 20 min groups ($p > 0.05$). These findings show that the groups were homogeneous in terms of demographic and baseline characteristics at the beginning of the study (Table 1).

Table 2. Repeated-measures ANOVA results for the first test service scores between groups

Variables	Control	0 min	10 min	20 min	p	ηp^2
Total						
First service point	13.82 ± 1.87	11.07 ± 1.73	13.57 ± 1.74	13.28 ± 1.97	0.001*	0.37
Second service point	12.85 ± 1.70	9.71 ± 1.63*	12.57 ± 1.78	12.57 ± 1.86	0.001*	0.42
Male						
First service point	13.85 ± 1.95	11.21 ± 0.83	13.66 ± 0.95	13.37 ± 2.13	0.024*	0.30
Second service point	12.87 ± 1.82	10.03 ± 1.64*	12.85 ± 2.21	13.02 ± 1.63	0.033*	0.34
Female						
First service point	13.70 ± 1.95	10.66 ± 2.00	12.85 ± 2.11	13.16 ± 1.99	0.031*	0.66
Second service point	12.71 ± 1.70	9.11 ± 1.36*	12.38 ± 1.34	12.10 ± 1.83	0.012*	0.55

Mean ± standard deviation, *$p < 0.05$.

In the first test, the total scores were significantly different between the groups for the first service ($p < 0.001$) (Table 2). Bonferroni correction was subsequently performed to determine which groups were responsible for the significant differences in the total first-service scores of the first test. A significant difference ($p < 0.001$) was found between the control group and 0 min; between 0 min and 10 min; and between 0 min and 20 min. No significant differences ($p > 0.05$) were observed between the control and 10 min; between the control and 20 min; and between 10 min and 20 min.

In the first test, the total scores were significantly different between the groups for the second service ($p < 0.001$) (Table 2). According to the Bonferroni correction, there was a significant difference ($p < 0.001$) between the control group and 0 min; 0 min and 10 min; and 0 min and 20 min. No significant differences ($p > 0.05$) were observed between the control and 10 min; between the control and 20 min; and between 10 min and 20 min. In the first test, the lowest total score for both the first and second service scores was found in the 0 min group. The total scores of the first test revealed that both the first and second service scores began to improve in the 10 min group.

In the first test, the first-service score showed a significant difference for the male participants ($p < 0.024$). A significant difference ($p < 0.012$) was found between the control group and 0 min. $p < 0.021$ was found between 0 min and 10 min. $p < 0.001$ was found between 0 min and 20 min. No significant differences ($p > 0.05$) were observed between the control and 10 min; between the control and 20 min; and between 10 min and 20 min.

For the male participants, there was a significant difference in the second-service scores in the first test ($p < 0.033$). According to the Bonferroni correction, $p < 0.040$ was found between the control group and 0 min. $p < 0.031$ was found between 0 min and 10 min. $p < 0.001$ was found between 0 min and 20 min. No significant differences ($p > 0.05$) were observed between the control and 10 min; between the control and 20 min; and between 10 min and 20 min. In the first test, the lowest scores for both the first and second services were found in the 0 min group among males. In the first test, both the first and second service scores began to improve in the 10 min group among males.

For the female participants, there was a significant between-group difference in the first-service scores in the first test ($p < 0.031$). According to the Bonferroni correction, $p < 0.026$ was found between the control group and 0 min. $p < 0.001$ was found between 0 min and 10 min. $p < 0.042$ was found between 0 min and 20 min. No significant differences ($p > 0.05$) were observed between the control and 10 min; between the control and 20 min; and between 10 min and 20 min.

For the female participants, there was a significant between-group difference in the second-service scores in the first test ($p < 0.012$). According to the Bonferroni correction, $p < 0.016$ was found between the control group and 0 min, and between 0 min and 10 min. $p < 0.026$ was found between 0 min and 20 min. No significant differences ($p > 0.05$) were observed between the control and 10 min; between the control and 20 min; and between 10 min and 20 min. In the first test, the lowest scores for both the first and second services were found in the 0 min group among females. In the first test, both the first and second service scores began to improve in the 10 min group among females.

Table 3. Repeated-measures ANOVA results for the retest service scores between groups

Variables	Control	0 min	10 min	20 min	p	ηp^2
Total						
First service point	13.50 ± 2.10	10.92 ± 1.54	13.78 ± 2.08	13.71 ± 1.54	0.001*	0.50
Second service point	14.21 ± 1.25	9.50 ± 1.22*	13.14 ± 2.28	13.57 ± 2.31	0.001*	0.56
Male						
First service point	14.00 ± 2.23	12.83 ± 0.83	14.14 ± 2.03	14.33 ± 1.50	0.013*	0.42
Second service point	13.41 ± 0.95	10.39 ± 0.89*	13.61 ± 2.43	13.74 ± 1.96	0.025*	0.50
Female						
First service point	13.00 ± 2.00	11.40 ± 1.87	13.42 ± 2.22	13.25 ± 1.48	0.022*	0.54
Second service point	14.58 ± 1.38	9.33 ± 1.41*	12.90 ± 2.13	13.00 ± 2.50	0.024*	0.59

Mean ± standard deviation, *$p < 0.05$.

In the retest, there was a significant between-group difference in the total first-service scores ($p < 0.001$) (Table 3). According to the Bonferroni correction, $p < 0.001$ was found between the control group and 0 min; between 0 min and 10 min; and between 0 min group and 20 min. No significant differences ($p > 0.05$) were observed between the control and 10 min; between the control and 20 min; and between 10 min and 20 min.

In the retest, there was a significant between-group difference in the total second-service scores ($p < 0.001$) (Table 3). According to the Bonferroni correction, $p < 0.001$ was found between the control group and 0 min; between 0 min and 10 min; and between 0 min and 20 min. No significant differences ($p > 0.05$) were observed between the control and 10 min; between the control and 20 min; and between 10 min and 20 min. In the retest, the lowest total score for both the first and second service scores was found in the 0 min group. The total scores of the retest revealed that both the first and second service scores began to improve in the 10 min group.

The first-service retest scores for the male participants were statistically significant ($p < 0.013$). According to the Bonferroni correction, $p < 0.016$ was found between the control group and 0 min. $p < 0.001$ was found between 0 min and 10 min; and between 0 min and 20 min. No significant differences ($p > 0.05$) were observed between the control and 10 min; between the control and 20 min; and between 10 min and 20 min.

In the retest, the second-service scores showed a significant difference for the male participants ($p < 0.025$). According to the Bonferroni correction, $p < 0.017$ was found between the control group and 0 min. $p < 0.001$ was found between 0 min and 10 min. $p < 0.040$ was found between 0 min and 20 min. No significant differences ($p > 0.05$) were observed between the control and 10 min; between the control and 20 min; and between 10 min and 20 min. In the retest, the lowest scores for both the first and second service scores among males were found in the 0 min group. In the retest, both the first-service and second-service scores began to improve in the 10 min group among males.

A significant difference was observed in first-service scores for the female participants in the retest ($p < 0.022$). According to the Bonferroni correction, $p < 0.018$ was found between the control group and 0 min. $p < 0.001$ was found between 0 min and 10 min. $p < 0.030$ was found between 0 min and 20 min. No significant differences ($p > 0.05$) were observed between the control and 10 min; between the control and 20 min; and between 10 min and 20 min.

In the retest, the second-service scores showed a significant between-group difference for the female participants ($p < 0.024$). According to the Bonferroni correction, $p < 0.020$ was found between the control group and 0 min. $p < 0.030$ was found between 0 min and 10 min. $p < 0.001$ was found between 0 min and 20 min. No significant differences ($p > 0.05$) were observed between the control and 10 min; between the control and 20 min; and between 10 min and 20 min. In the retest, the lowest scores for both the first and second services among females were found in the 0 min group. In the retest, both the first and second service scores began to improve in the 10 min group among females.

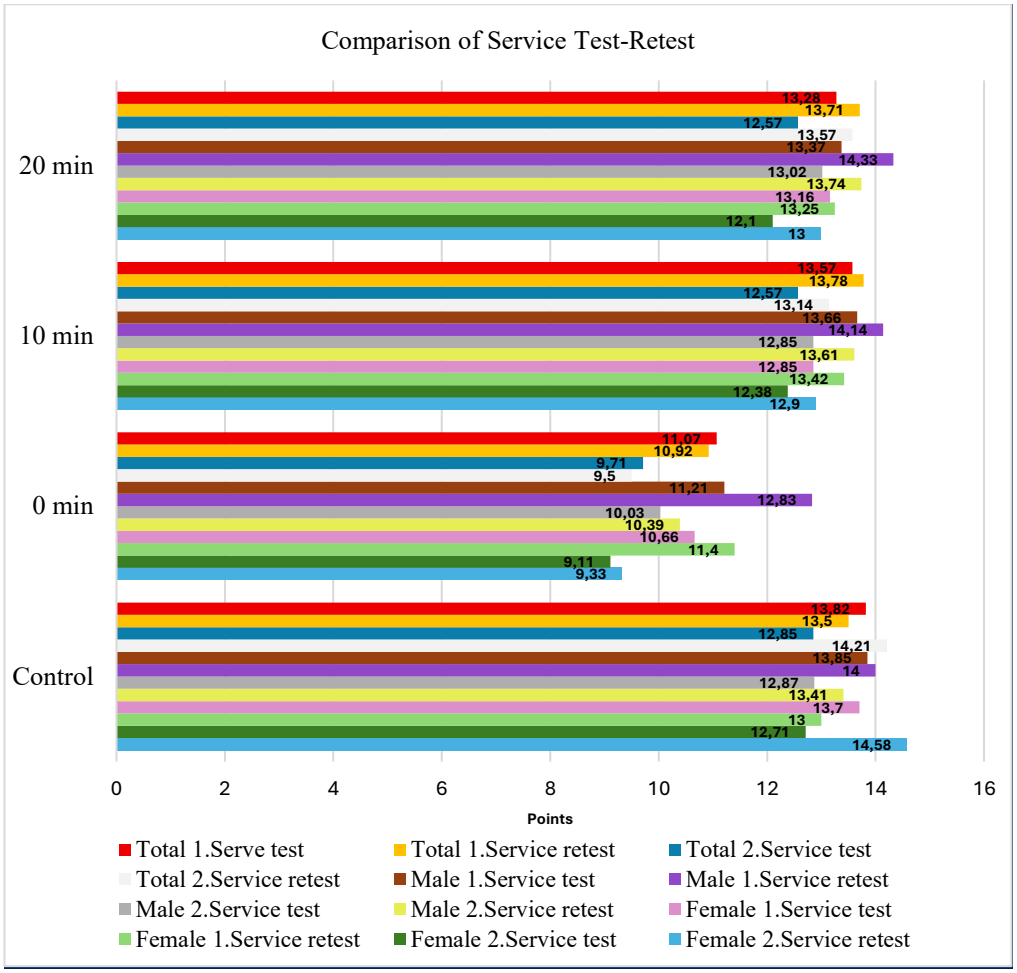

Figure 2. Comparison of service test-retest scores

The service scores for the comparison of test-retest data are shown in Figure 2. In the control group, the test-retest results for both the total first and total second service scores were not significant ($p > 0.05$). In the 0 min group, the test-retest results for both the total first and total second service scores were not significant ($p > 0.05$). In the 10 min group, the test-retest results for both the total first and total second service scores were not significant ($p > 0.05$). In the 20 min group, the test-retest results for both the total first and total second service scores were not significant ($p > 0.05$).

For males in the control group, the test-retest results for both the first and second service scores were not significant ($p > 0.05$). For males in the 0 min group, the test-retest results for both the first and second service scores were not significant ($p > 0.05$). For males in the 10 min group, the test-retest results for both the first and second service scores were not significant ($p > 0.05$). For males in the 20-min group, the test-retest results for both the first and second service scores were not significant ($p > 0.05$).

For females in the control group, the first service test-retest scores were not significant ($p > 0.05$), whereas the second service test-retest scores were significant ($p < 0.045$). For females in the 0 min group, the test-retest results for both the first and second service scores were not significant ($p > 0.05$). For females in the 10 min group, the test-retest results for both the first and second service scores were not significant ($p > 0.05$). For females in the 20-min

group, the test-retest results for both the first and second service scores were not significant ($p > 0.05$). The effect sizes for the test-retest variables were small to medium, ranging from 0.30 to 0.66 across all variables.

DISCUSSION AND CONCLUSION

This study investigated the effects of MF on service performance, and the duration of mental recovery in recreational tennis players. The findings showed that 30 minutes of Instagram use induced MF, and reduced service accuracy among recreational tennis players.

The performance decrements caused by MF have been associated with an increase in perceived effort (Van Cutsem et al., 2017). In a study investigating MF in male tennis players with a 30-minute Stroop test, no significant difference was observed in service speed, but perceived effort and failed second-service shots increased (Filipas et al., 2024). Research has shown that MF causes a decrease in movement speed during exercise (Missenard et al., 2009; Rozand et al., 2015). Moreover, acute sleep restriction caused MF, resulting in a significant decrease in the service accuracy of both the right and left sides (−17.5% and −14.1%, respectively) (Vitale et al., 2021). This decline may be linked to distractions or circadian rhythm disruptions caused by screen exposure (Chang et al., 2015; Chellappa et al., 2016). In addition, blue light emitted from screens is among the factors that disrupt the circadian rhythm (Heo et al., 2017). In our study, potential distractions related to circadian rhythms were not controlled.

The physiological mechanisms underlying the decrease in tennis service accuracy due to MF are unknown (Filipas et al., 2024). However, among the mechanisms underlying MF, the resource depletion theory has been widely accepted (Grier et al., 2003; Helton & Russell, 2011). According to this theory, MF is caused by the continuous allocation of cognitive resources to tasks, leading to the depletion of resources which cannot be easily replenished (Grier et al., 2003; Helton & Russell, 2011). Owing to the variability of the cognitive control required in cognitive tasks, researchers believe that cognitive resource depletion typically refers to depletion in sustained tasks (Holtzer et al., 2010; Salihu et al., 2022). Furthermore, sport itself imposes high cognitive demands on athletes (Walsh, 2014), and the resulting MF may impair athletes' tactical (Fortes et al., 2019) and technical actions (Badin et al., 2016). Tennis is a sport that demands not only technical and physical skills but also the effective control and regulation of mental load. It is important for competitive tennis players to maintain their service points throughout the game to win a match (Kuroda et al., 2023). Moreover, the number of aces won and valid first and second service points were found to be associated with match wins (Ma et al., 2013). In tennis, a service is a shot that players execute at their own pace (Kuroda et al., 2023). Jacobson & Matthaeus reported that self-paced athletes have greater inhibitory control than do externally paced athletes, who are influenced by the opponent's movements (Jacobson & Matthaeus, 2014). Inhibitory control involves the ability to control one's attention, behavior, thoughts, and emotions to block internal and external distractions, and instead selectively focus on critical tasks (Diamond, 2013). For experienced athletes (sport years = 14.54), watching nature videos (total viewing time = 10 min) was insufficient to induce MF and did not impair their physical performance (Schücker & MacMahon, 2016). In our

study, the scores of the 0 min group, which served immediately after exposure to Instagram, decreased significantly. Some studies have emphasized that MF may impair sport-specific psychomotor actions (Habay et al., 2021; Ishihara et al., 2021). These findings are supported by previous studies showing that MF negatively affects racket sports performance (Van Cutsem et al., 2019).

In conclusion, the effects of the MF were eliminated in participants who refrained from using their smartphones for 10 minutes after spending 30 minutes on Instagram; therefore, a 10-minute break was sufficient for mental recovery. Recreational tennis players should avoid using their phones at least 10 minutes before training to maintain their performance.

LIMITATIONS AND RECOMMENDATION

In this study, Instagram was used as the sole method for inducing MF. However, no subjective MF assessments (e.g., visual analog scale [VAS], NASA-TLX, or Likert-type questionnaires) or objective cognitive tasks (e.g., Stroop, psychomotor vigilance task [PVT], or AX-CPT) were employed to verify the actual occurrence and intensity of MF. Furthermore, the content that participants engaged with on Instagram (e.g., posts, reels, or stories) was not categorized, making it unclear whether different content types, such as photos or videos, had varying levels of impact. The occurrence of MF may also be partially due to participants' lower training volume or less developed mental resilience in this study. Additionally, other tasks known to induce MF were not included, limiting comparisons with more traditional experimental paradigms. Future studies should investigate the effects of different MF tasks, including emotional, mechanical, or motivation-related videos, to better understand their relative influences on performance. Another limitation is that mental recovery time was measured at 10-minute intervals. Studies with more frequent measurements may provide a more precise indication of the optimal time needed to disconnect from social media before training or recreational activities. Finally, further research with tennis players at different performance levels is warranted to enhance the generalizability of the findings and to deepen the understanding of how social media use influences MF and subsequent sport-specific performance.

Conflict of Interest: There is no conflict of interest in this study.

Researchers' Statement of Contribution Rate: Research Design A.Ö., M.N.K, G.D., Statistical analysis A.Ö.; Preparation of the article, A.Ö., M.N.K, G.D.; Data Collection was carried out by A.Ö., M.N.K.

Ethical Approval

Board Name: Gazi University Ethics Commission.
Date: 14.09.2023
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