

STUDY ON THE LINK BETWEEN SELF-ESTEEM AND TEAM IDENTITY AS MAJOR FACTORS IN TACKLING COMPETITIVE ANXIETY IN PERFORMANCE ATHLETES

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ABSTRACT. Sports competition and athletic performance are of major interest in sports psychology. Throughout the history of sports, researchers have sought to identify the modifiable factors that could help those who take part in competition to adapt to it as best as possible. In this study, we will focus on identifying certain psychological factors described in the specialized literature as having a consistent link to decreasing competitive anxiety, while looking for implementable techniques to improve these factors. The aim of this study was to identify effective methods for decreasing competitive anxiety, reaching a state of flow and influencing the dimensions of mindfulness (awareness, refocus, non-judgment). The study included a total number of 27 female subjects and was conducted over a period of 4 months (21.07.2022-21.11.2022). In the study, the subjects were divided into two groups: one working group where the intervention took place and in which 15 female footballers from League 1 were randomly assigned, and one control group with 12 female footballers. The two groups underwent an evaluation aimed at identifying the achievement of the state of flow and the reduction of competitive anxiety after a few mental and physical relaxation exercises. The results of the statistical processing of data show some differences between the two groups in terms of score for the tracked parameters, but also between the results of each group in the pre- and post-tests. However, statistically significant differences between the two groups were obtained only for the state of flow and somatic anxiety. The state of flow, of mental wellbeing, should be considered before, during and after each sports competition, regardless of its level, in order to achieve a satisfactory performance in the world of sports, correlated with the expectations and the training of each athlete.

Keywords: *competitive state anxiety, mindfulness, state of flow*

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REZUMAT. *Studiu privind legătura dintre stima de sine și identitatea de echipă, ca factori importanți în combaterea anxietății competiționale la sportivii de performanță.* Competiția sportivă și performanțele unui sportiv constituie un interes major în psihologia sportului. De-a lungul istoriei sportului, cercetătorii au căutat să identifice acei factori modificabili care să îi ajute pe cei care fac parte din competiție să se adapteze cât mai bine la aceasta. În acest studiu vom vorbi despre identificarea anumitor factori psihologici, descriși în literatura de specialitate ca având o legătură consistentă cu scăderea anxietății competiționale și, de asemenea, își mai propune căutarea unor tehnici implementabile de îmbunătățire a acestor factori. Scopul acestui studiu a fost identificarea unor metode eficiente pentru reducerea anxietății competiționale, dobândirea stării de flow și influențarea dimensiunilor de mindfulness (conștientizare, refocalizare, non-judecare). Studiul a inclus un număr total de 27 subiecți de gen feminin și s-a desfășurat pe o perioadă de 4 luni (21.07.2022-21.11.2022). În cadrul studiului, subiecții au fost împărțiți în două loturi: un grup de lucru în care s-a practicat intervenția unde au fost alocate randomizat 15 jucătoare de fotbal feminine din Liga 1 și un grup de control cu 12 jucătoare. Cele 2 grupuri au fost supuse unei evaluări menite să identifice dobândirea stării de flow și reducerea anxietății competiționale post-exerciții de relaxare fizică și mentală. Rezultatele obținute în urma prelucrării statistice a datelor arată existența unor diferențe între scorurile obținute de cele două grupuri în cazul parametrilor urmăriți dar și între rezultatele obținute la pre și respectiv post testare de fiecare dintre grupuri. Cu toate acestea, diferențe semnificative statistic între cele două grupuri, au fost obținute doar în cazul stării de flow și a anxietății somatice. Pentru obținerea unei performanțe satisfăcătoare în lumea sportului, conformă cu așteptările și pregătirea realizată de către fiecare atlet, starea de flow, de bine mental trebuie luată în considerare înaintea, în timpul și după fiecare competiție sportivă, indiferent de nivelul acesteia.

Cuvinte-cheie: *anxietate de stare competițională, mindfulness, stare de flow*

INTRODUCTION

Sports competition and athletic performance are of major interest in sports psychology. Throughout the history of sports, researchers have sought to identify the modifiable factors that could help those who take part in competition to adapt to it as best as possible. In this study, we will focus on identifying certain psychological factors described in the specialized literature as having a consistent link to decreasing competitive anxiety, while looking for implementable techniques to improve these factors. In fact, this paper focuses on analyzing the link between an emotion (in this case, competitive anxiety) and emotion management techniques (mindfulness, muscular and mental relaxation).

Psychological factors, such as an athlete's personality or various psychological traits, are of unique importance in sports performance and for high-level success in sports. Psychological resilience (defined as optimal adaptation to various significant sources of stress), the way a person is able to regulate its emotions and a high level of self-confidence are considered important psychological aspects necessary for performance athletes to be able to cope with the high pressure of performance sports (Burns et al., 2022; Liu et al., 2021). Groups are not merely external characteristics of the world that provide a framework for our behavior. Instead, they shape our psychology through their ability to be internalized and to contribute to our sense of self. That is, groups give us a sense of social identity: "the knowledge that [we] belong to certain social groups, together with some emotional and value significance [to us] of the group membership" (Tajfel, 1972, p. 31).

Regarding the techniques for improving psychological traits, a relatively new concept introduced in sports psychology is the concept of mindfulness. The term is defined as the awareness that arises through intentional attention to the present moment and to the unfolding of the experience taking place in the present moment (Kabat-Zinn, 2013). This type of mental training was developed in sports psychology to help athletes increase their ability to pay attention to the present moment and to disregard the various situational distractions. There are studies that emphasize both a direct and positive connection between mindfulness and sports performance, as well as an indirect one (Bagheri et Dana, 2021; Jha et al., 2017). Certain interventions based on the concept of mindfulness support the idea that individuals who are attentive and aware of the task they are performing develop a certain effectiveness in solving it, without automatically and maladaptively reacting to the difficult thoughts and emotions that may accompany the task (Luberto, 2014; Langer et al., 2000; Wallace et al., 2006). Also, there are studies that have highlighted the positive influence that mindfulness training has on mental attitude (Scott-Hamilton et al., 2016), on controlled attention, in the effective management of emotions (Röthlin et al., 2020) and in reducing anxiety (Hut et al., 2021). A concept developed in the previous chapter is that of locus of control (LOC). There are studies showing that mindfulness training can influence locus of control. Mindfulness training can also predict internal LOC (Sulphey, 2016), and Fallby et al. (2006) indicated that individuals with an internal LOC and a high sense of coherence consistently displayed significantly higher mental ability scores. Mindfulness training can alter an individual's locus of control by reorienting his mind from external stimuli to an intrinsic focus, being able thus to manage anxiety of any nature (Specia et al., 2000).

Flow is a state in which one is completely absorbed in an activity, losing self-awareness. Flow and attention involve deep concentration, but only flow involves goal-directed behavior.

There is ample evidence linking flow states to improvements in subjective experience (Nakamura & Csikszentmihalyi, 2002), self-concept (Jackson, Thomas, Marsh, & Smethurst, 2001), happiness (Haworth, 1993) and performance (Jackson & Roberts, 1992). Due to the centrality of the flow experience – the meeting point between peak performance and peak experience – flow has become a highly relevant concept in sport. Sport began to focus on flow research in the early 1990s, the first empirical studies being published in 1992 (e.g., Jackson & Roberts, 1992). A rich literature has developed subsequently on flow in sports, including some fundamental studies.

PURPOSE OF RESEARCH

The purpose of this study was to identify effective methods for decreasing competitive anxiety, reaching the state of flow and influencing the dimensions of mindfulness (awareness, refocus, non-judgment), concepts that have been defined as essential for developing an internal and successful LOC, crucial to achieving satisfactory results in the world of sports competitions.

Research hypotheses

1. There is a statistically significant difference between the experimental group and the control one in the post-test in terms of level of flow.
2. There is a statistically significant difference between the experimental group and the control one in the post-test in terms of mindfulness dimensions' levels (awareness, refocus, non-judgment).
3. There is a statistically significant difference between the experimental group and the control one in the post-test in terms of level of cognitive and somatic anxiety.

Research objectives

1. Identifying any significant difference between the two study groups (the experimental group and the control group) in terms of level of flow.

2. Identifying any significant difference between the two study groups (the experimental group and the control group) in terms of mindfulness dimensions' levels (awareness, refocus, non-judgment).

3. Identifying any significant difference between the two study groups (the experimental group and the control group) in terms of level of cognitive and somatic anxiety.

Research methodology

The study included a total number of 27 female subjects and was conducted over a period of 4 months (21.07.2022-21.11.2022). In the study, the subjects were divided into two groups: one working group where the intervention took place and in which 15 female footballers from League 1 were randomly assigned, and one control group with 12 female footballers.

The two groups underwent an evaluation aimed at identifying the achievement of the state of flow and the reduction of competitive anxiety after a few mental and physical relaxation exercises. These variables were evaluated based on three questionnaires: Mindfulness Inventory for Sport, State of Flow Scale and Questionnaire for Competitive State Anxiety Identification.

The intervention took place over a period of 4 months (21.07.2022-21.11.2022). 15 female footballers from League 1 participated in the intervention, and another 12 footballers made up the control group. The intervention began by completing the competitive anxiety and mindfulness questionnaires. The questionnaires were completed before the start of the intervention and at the end.

The data obtained from the application of the 3 questionnaires were analyzed using the SPSS statistical analysis program. We have applied the ANCOVA test to identify the differences between the two groups regarding the 3 dimensions that were tracked: level of flow, mindfulness, level of cognitive and somatic anxiety.

RESEARCH RESULTS

The results of the statistical processing of data, presented in the tables below (Table 1, Table 2), show some differences between the two groups in terms of score for the tracked parameters, but also between the results of each group in the pre- and post-tests, except for Awareness in the control group (Table 1). However, statistically significant differences ($p < .05$) between the two groups were obtained only for the state of flow ($F = 13.81$, $p < .05$) and somatic anxiety ($F = 4.59$, $p < .05$). In both cases, the effect size is large ($\eta^2 = .16$) (Table 2).

Table 1. Descriptive statistics of the variables included in the study

Variables	Experimental <i>N=15</i>		Control <i>N=12</i>	
	<i>A</i>	<i>SD</i>	<i>A</i>	<i>SD</i>
Flow pre	140.58	12.33	145.54	18.04
Flow post	146.59	16.78	141	12.16
Awareness pre	25.88	4.60	25.63	2.54
Awareness post	24.88	5.27	25.63	2.76
Non-judgment pre	15.88	6.45	13.27	7.96
Non-judgment post	17.76	4.89	15.72	8.06
Refocus pre	24.65	4.48	25.54	3.35
Refocus post	24.29	4.81	26.45	3.38
Cognitive anxiety pre	15.35	3.67	18	4.04
Cognitive anxiety post	15.12	3.72	17.18	2.31
Somatic anxiety pre	13.35	2.89	18.18	3.65
Somatic anxiety post	11.82	2.62	19.45	5.85

A=average; SD=standard deviation; N=number of participants

Table 2. ANCOVA analysis by controlling pre-test results

Dependent variable	df	F	p-value	Partial η^2
Flow	1	13.81	.04	.16
Awareness	1	.68	.42	.03
Non-judgment	1	.06	.81	.00
Refocus	1	1.45	.24	.06
Cognitive anxiety	1	.43	.52	.02
Somatic anxiety	1	4.59	.04*	.16

* $p < .05$ ** $p < .01$

Hypothesis no. 1 is confirmed. For the analysis of hypothesis no. 1, we used the Ancova statistical technique, by controlling the score for the Flow variable recorded by the participants in the pre-test. In terms of score, there is a statistically significant difference for the Flow variable between the two groups, control and experimental, $F = 13.81$, $p < .05$. The effect size is large, $\eta^2 = .16$.

Hypothesis no. 2 is not confirmed. For the analysis of hypothesis no. 2, we used the ANCOVA statistical technique, by controlling the score for the Awareness ($F = .68$, $p > .05$), Refocus ($F = 1.45$, $p > .05$) and Non-judgment ($F = .06$, $p > .05$) variables. There is no statistically significant difference in terms of score for the Awareness, Refocus and Non-judgment variables between the two groups, control and experimental.

Hypothesis no. 3 is partially confirmed. For the analysis of hypothesis no. 3, we used the Ancova statistical technique, by controlling the score for the cognitive anxiety and somatic anxiety variables recorded by the participants in pre-test. In terms of score, there is a statistically significant difference for the Somatic Anxiety variable between the two groups, control and experimental, $F = 4.59$, $p < .05$. The effect size is large, $\eta^2 = .16$. Regarding cognitive anxiety, there was no statistically significant difference ($F = .43$, $p > .05$).

DISCUSSIONS

As per the results of our research, quasi-normal or logical phenomena can be observed, arising because of the physiological processes of mental and physical repair. The experimental group behaved as we expected and desired. It responded positively and in a satisfactory proportion to the exercises chosen to restore the wellbeing of body and mind. Due to these exercises, the athletes were able to level their anxiety, to balance their body and feel more prepared for the competition in which they were involved. Flow, that state of mental wellbeing, that internal energy of the body that can be channeled toward achieving the desired goals, along with the level of somatic anxiety were greatly improved as a result of introducing the relaxation exercises. Regarding the other psychological parameters chosen to be described in our study, we cannot talk about a statistically significant improvement. It should be noted that the levels of mindfulness (non-judgment, refocus and awareness) and cognitive anxiety cannot be quantified to the same extent as flow and somatic anxiety, as the latter are more about the physical state and the somatic tone of the body, not being connected as much to the psyche and emotions of the participants in the study. As a result of these relaxation and re-centering techniques, personal tone improved significantly from a short-term physical perspective. The emotional side of each participant needs to be studied and addressed for a considerable length of time, with deeper involvement in psychology and by probing the subconscious, for a lasting evolution toward constant performance.

In the study developed by Oguntuase & Sun (2022), the protocols highlighted by Gardner et al. (2007) were used for the intervention group in the MAC program for 8 weeks. The intervention that prescribed mindfulness exercises took place once a week for 50 minutes. The participants in that study were 34 Nigerian footballers who, at post-test, reported higher levels of self-confidence, resilience and emotion control. In another study (Mohammad et al., 2018), 15 footballers between the ages 17 and 20 participated in an experimental group that performed mindfulness exercises. At the end of the intervention, the players

from the group that practiced mindfulness registered a decrease in the level of competitive anxiety. Another study was conducted in Greece (2021), in which female footballers were informed that the intervention that would last approximately eight weeks required them to participate in 30 minutes' mindfulness training sessions 2 times per week, before the training, while also spending 5-10 minutes per day practicing meditation besides these training sessions and participating in evaluations before, during and after completion of the mindfulness program. At the end of the research, there was an improvement in the players' inner speech. Terres et al. (2022) found that mindfulness has positive effects on reducing cognitive anxiety (somatic and cognitive). Öner (2022) noticed that athletes' mindfulness and concentration was positively correlated with awareness, non-judging attitude, reorientation, flow and balance. The study had both male and female footballers as participants. Another article, that also took into account athletes' age, found that older female athletes had an increase in attention from pre-test to post-test, while younger athletes registered a decline. Gómez-Odrizola & Calvete (2021), found that, after being introduced to a mindfulness program, younger adolescents had an increase in depressive affect and somatic symptoms, suggesting that mindfulness interventions have different effects depending on participant's age or developmental stage. Therefore, it may be important to take into account the developmental or psychosocial needs of the athletes when implementing the mindfulness program, even when they are very similar. Additionally, in that study, age was positively associated with program engagement (a more frequent practice of mindfulness skills during training and competition), suggesting that dosing may have played a role in older athletes reporting a greater score of mindfulness. An alternative explanation could be linked to the playing time. It is possible that older and more experienced players had more opportunities to play during competitions and, thus, had more opportunities to apply mindfulness skills. Another notable finding was that age was related to mindfulness as trait/disposition, in that older athletes have higher levels of acceptance (but not awareness), and age as a continuous variable predicted change in acceptance post-intervention. Perhaps with age and/or mindfulness experience, athletes become more open to an "attitude of acceptance, openness and even compassion towards their own experience" (Cardaciotto et al., 2008).

Furthermore, general increases in acceptance may result from psychobiological capacities (e.g., emotion regulation, cognitive control) that continue to develop in young adulthood (Arnett, 2000; Steinberg, 2007). To investigate this further, studies could include measurements of emotional intelligence, positive affect and life satisfaction to better understand age-related differences in mindfulness, as well as changes in mindfulness.

A study that analyzed the effect of the Mindfulness Sports Performance Enhancement (MSPE) method on competitive state anxiety in karate athletes in Surabaya resulted in a significant decrease in competitive anxiety, by 9,25 points (Harita et al., 2022). This condition is supported by the decrease in cognitive anxiety and somatic anxiety by 7.76 and 3.86 points respectively. The decrease was also followed by an increase in self-confidence of 8.21 points. The findings of this study show the importance of continuous mental mindfulness training for improving athletes' performance by overcoming competitive state anxiety. In our study, only somatic anxiety decreased due to the mindfulness program, with no significant results regarding the cognitive anxiety dimension.

In another study investigating whether mindfulness training increases athletes' mindfulness and flow experience and decreases sport-specific anxiety and sport-specific pessimism, the authors (Hamilton & Schutte, 2016) found that cyclists that participated in a mindfulness intervention showed greater increases in mindfulness and flow capacity than participants from the control group. Greater increases in mindfulness in the intervention group between baseline and post-test were linked to greater increases of the flow state. Similarly, the female athletes in our experimental group showed increases in the state of flow at the end of the intervention (post-test).

The same authors (Hamilton & Schutte, 2016) examined the effects of mindfulness practice on anxiety, flow state, pessimism and the ability to perform mindfulness programs. The athletes who practiced mindfulness exercises showed significantly greater increases in mindfulness and flow and significantly greater decreases in pessimism and anxiety than the athletes who didn't practice mindfulness exercises. Increases in the ability to practice mindfulness from baseline to post-test were associated with increases of flow and greater decreases of pessimism. Increases in the flow state were associated with decreases in somatic anxiety and pessimism.

CONCLUSIONS

The more we try to understand psychological training, the more we notice that there are new dimensions to it, areas that we were barely aware existed and that govern our world more than we would have expected. As anyone in their chosen career, every athlete wants to achieve the ultimate and lasting performance, for which he invests everything mentally and physically. Not everyone understands that an athlete allocates energy to the physical act by involving his mind and his emotions, with all the good or the bad, with all the force and intensity of that moment. Consequently, studies aimed at finding an appropriate support and therapy system for athletes are crucial. After accepting

that there are psychological concepts for confronting life's problems, concepts that are taken up during a sport competition, a group of support and appropriate help can be developed for each athlete, in a personalized manner and adapted to the needs of the moment and in the long term.

Anxiety, negative emotions (frustration, fear, defeat, stress) and their psychological impact on sports performance are recognized worldwide, in all circles. We tried to see how we can improve these parameters before a competition from an academic point of view. Those parameters related to mental engagement with the body (such as somatic anxiety and the concept of flow or the appropriate emotional tone, achieved by coordinating physical and emotional energy resources toward improving physical and emotional state) were significantly improved because of yoga exercises. After muscle stretching, body posture correction and breathing coordination, the athletes achieved physical relaxation and cleared the acute stress state, which led to an increase in the level of confidence during the competition, which resulted, as expected, in a proper and satisfying performance for all the athletes involved.

Regarding those concepts strictly related to the human psyche, such as cognitive anxiety and mindfulness, the exercises studied in this experiment did not prove to be sufficient to improve the emotional state of the person in question, especially since this would actually require a long-term intervention, aimed at carefully and patiently identifying the mental problems at the root of chronic stress, finding ways to raise awareness and communicate these disturbing items, as well as implementing lasting therapies for resolving the anxieties and fears of each person involved in that situation.

The key conclusion of this study is that it is beneficial to perform these yoga exercises in order to help an athlete improve his level of performance, by decreasing pre-competition anxiety, reducing the noise of his psyche overcrowded with everyday problems and psychological frustrations accumulated over time and eliminating demoralizing and highly negative emotions, with the aim of achieving a better game. Currently, in this moment, for a desirable result that can increase the level of confidence and satisfaction of the athlete. To achieve the successful athlete of tomorrow.

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