Mindfulness en futbolistas masculinos: un estudio transversal

Mindfulness in Male Soccer Players: A Cross-Sectional Study

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RESUMEN.
El presente estudio tiene como objetivo determinar si la atención plena muestra una diferencia significativa en función del estado amateur / profesional de los jugadores de fútbol masculino, la posición, la experiencia de juego, el historial de recibir tutoría, asesoramiento o terapia de rendimiento psicológico de un psicólogo deportivo y el estado de realización de entrenamiento mental. El estudio se realizó con 233 jugadores de fútbol varones adultos y se aplicó a los participantes el Inventario de Mindfulness para el Deporte y el Formulario de Información Personal. Como resultado del estudio, se encontró que los jugadores de fútbol profesionales tenían niveles más altos de atención en comparación con los jugadores de fútbol aficionados. Se observó que los niveles de mindfulness difirieron a favor de los futbolistas que recibieron tutoría o asesoramiento psicológico de desempeño, realizaron entrenamiento mental y tenían más experiencia en deportes. También se observó que los atacantes tenían mayores niveles de atención en comparación con los mediocampistas**.**

PALABRAS CLAVE.
Mindfulness, Futbolistas masculinos, Estudio transversal.

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ABSTRACT.
The present study aims to determine whether mindfulness shows a significant difference based on the male soccer players' amateur/ professional status, position, playing experience, history of receiving mentorship, psychological performance counselling or therapy from a sports psychologist, and status of performing mental training. The study was carried out with 233 adult male soccer players and the Mindfulness Inventory for Sport and Personal Information Form was applied to the participants. As a result of the study, it was found that professional soccer players had higher mindfulness levels compared to amateur soccer players. It was observed that mindfulness levels differed in favor of soccer players who received mentorship or psychological performance counselling, performed mental training and had more experience in sports. It was also observed that attackers had higher mindfulness levels compared to midfielders.

KEYWORDS.
Mindfulness, Male soccer players, Cross-sectional study.

1. Introduction.

Mindfulness is defined as the nonjudgmental and deliberate awareness that emerges through paying attention to the experiences in the present moment (Kabat-Zinn, 2003). While previous studies on mindfulness were initially conducted in relation to clinical populations for the most part (Bowen & Enkema, 2014; Reibel, Greeson, Brainard & Rosenzweig, 2001), the number of studies in the field of sports psychology examining the effects of mindfulness on particularly athletic performance has been rapidly increasing (Bühlmayer, Birrer, Röthlin, Faude & Donath, 2017; Zhang et al., 2016; Moen, Abrahamsen & Furrer, 2015; Pineau, Glass & Kaufman, 2014). It can be seen as an important function that mindfulness increases performance by affecting the non-pathological psychological factors that hinder athletic performance. For example, while mindfulness-based practices were found to be functional for non-optimal anxiety, which hinders athletic performance (Scott-Hamilton, Schutte & Brown, 2016), it was also reported that there was a negative relationship between ruminative thoughts and mindfulness (Deyo, Wilson, Ong & Koopman 2009). The functionality of mindfulness in increasing athletic performance is not limited to these findings. While mindfulness plays an important role for athletes in terms of positive affectivity, it was reported to have a negative relationship with exhaustion (Gustafsson, Skoog, Davis, Kenttä & Haberl, 2015). In a previous study conducted with athlete students, it was found that awareness and non-judgment, which are sub-dimensions of mindfulness, were negative predictors of the participants' daily stress levels (Kaiseler, Poolton, Backhouse & Stanger, 2017). In another study conducted with athletes, it was stated that mindfulness could improve well-being and reduce stress (Shannon et al., 2020). In a study conducted with individual and team athletes, it was found that athletes with national rankings had a higher mindfulness average in the refocus sub-dimension compared to athletes with no rankings (Tingaz, 2020a). In another study it was determined that the athletes with high performance had higher mindfulness levels (Bulğay, Tingaz, Bayraktar & Çetin, 2020). Mindfulness-based practices may suitable for both individual and team athletes. In addition to the studies conducted with athletes in various branches, the

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functionality of mindfulness-based intervention programs on soccer, which has an important position among team sports, was also shown in previous studies. For example, it was found in a previous study that an 8-week mindfulness-based soccer program improved the athletic performance of soccer players (Carraça et al., 2018). In another study conducted by soccer players, it was stated that mindfulness-based programs could improve the attentiveness of athletes and reduce their risk of injury (Ivarsson et al., 2015). Mindfulness-based and neurofeedback-based intervention programs were compared on soccer players and it was reported that the use of mindfulness-based programs for reducing the anxiety of soccer players was significantly more effective compared to the use of neurofeedback-based programs (Zadkhosh et al., 2018). In an experimental study conducted with soccer players, it was stated that mindfulness exercises played an important role in cognitive emotion regulation (Asadi et al., 2016).

Soccer is a game that can be played by a wide range of age groups and audiences. Therefore, in the present study, it is of importance to examine the relationship of mindfulness in soccer players with different variables and investigate the players based on more specific demographic features. For this reason, the present study aims to determine whether mindfulness shows a significant difference based on the players' amateur/professional status, position, playing experience, history of receiving mentorship, psychological performance counselling or therapy from a sports psychologist, and status of performing mental training.

2. Methods.

This study was approved by the Gazi University Ethics Committee, Turkey (number: 2020-345) and written informed consent was obtained from each participant according to the declaration of Helsinki.

Study Model.

The present study was modelled as a cross-sectional study. In this type of survey study, participants' opinions regarding a topic or event, or their features such as interests, skills, abilities and attitudes are determined while data measurement is performed at once and samples are larger compared to other types of studies (Karasar, 2017).

Participants.

In the power analysis performed using the "G. Power-3.1.9.2" program, when the effect size was taken as 0.25 and the significance level was taken as F=0.05, it was estimated that 93% power will be established with a total of 233 soccer players (Cohen, 1988). Accordingly, a total of n=233 male soccer players playing for different clubs in Turkey in the year 2020 with amateur (n=160) or professional (n=73) licenses participated in the present study. The participants had an age average of (22.62±6.86), a weight average of (68.90±9.43) kg, a height average of (176.64±7.03) cm and a playing experience average of (8.98±5.40) years.

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Measures.

Personal Information Form.

This form consists of demographic information regarding the participants' age, weight, height, playing experience, position, amateur/professional status, playing experience, history of receiving mentorship, psychological performance counselling or therapy from a sports psychologist, and status of performing mental training.

Procedure.

Data collection was carried out online through Google Forms. The Personal Information Form and the Mindfulness Inventory for Sport were used. In addition to the Personal Information Form, it was explained to the participants in written form that they were informed in detail regarding the purpose of the study, that the study was scientific, that they were expected to be objective while giving answers, and that providing accurate information was very important in terms of study results. The data were collected during the season.

Mindfulness Inventory for Sport (MIS): The Mindfulness Inventory for Sport developed by Thienot et al. (2014) was adapted into Turkish by Tingaz (2020b). The inventory consists of three sub-dimensions as "Awareness", "Non-Judgment" and "Refocus". The "Awareness" sub-dimension consists of the first 5 items (1, 2, 3, 4, 5) while "Non-Judgment" (reverse score items) consists of the following 5 items (6, 7, 8, 9, 10) and "Refocus" consists of the last 5 items (11, 12, 13, 14, 15). The Cronbach's Alpha Internal Consistency Coefficient was calculated as .82 for the inventory, α=.81 for the "Awareness" sub-dimension, α=.70 for "Non-Judgment" and α=.77 for "Refocus".

Data Analyses.

The analysis of the data obtained from the inventory was performed using SPSS 25.0. The data of 9 participants with missing answers were excluded and the analyses were performed on the data of the remaining 233 participants. Following the examination of the data, the Mindfulness total scores of the participants were calculated and outlier analyses were performed. Afterwards, the skewness and kurtosis coefficients were calculated to test for the normality of data. It was determined that the data were normally distributed in both the inventory total score and the sub-dimensions (Kline, 2011).

The independent t-test was performed in the comparisons based on the variables of amateur/professional status, status of performing mental training and history of receiving mentorship, psychological performance counselling or therapy from a sports psychologist while the one-way analysis of variance (ANOVA) was performed in the comparisons based on the variables of playing experience and position. The Bonferroni multiple comparison technique was used to determine the source of the significant difference determined as a result of ANOVA $p<.05$ was considered as statistically significant.

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3. Results.

Table 1. T-Test Results Based on the Amateur/Professional Status Variable

Variable	Group	n	$\overline{X}$	Sd	t	p
Awareness	Professional	73	5.08	.737	-2.360	**.019***
	Amateur	160	4.81	.856		
Non-Judgment	Professional	73	2.38	.996	1.431	.154
	Amateur	160	2.58	.969		
Refocus	Professional	73	4.96	.426	-1.898	.059
	Amateur	160	4.73	.435		
Total Mindfulness	Professional	73	4.14	.043	-1.723	.086
	Amateur	160	4.04	,42		

T-Test Results Based on the Status of Performing Mental Training Variable

Variable	Group	n	$\overline{X}$	Sd	t	p
Awareness	Yes	150	4.98	.815	2.495	**.037***
	No	83	4.74	.836		
Non-Judgment	Yes	150	2.48	1.007	-.655	.513
	No	83	2.57	.932		
Refocus	Yes	150	4.91	.885	2.487	**.013***
	No	83	4.60	.896		
Total Mindfulness	Yes	150	4.12	.443	2.568	**.011***
	No	83	3.97	.401		

T-Test Results Based on the History of Receiving Mentorship, Psychological Performance Counselling or Therapy from a Sports Psychologist Variable

Variable	Group	n	$\overline{X}$	Sd	t	p
Awareness	Yes	150	4.98	.815	2.495	**.037***
	No	83	4.74	.836		
Non-Judgment	Yes	150	2.48	1.007	-.655	.513
	No	83	2.57	.932		
Refocus	Yes	150	4.91	.885	2.487	**.013***
	No	83	4.60	.896		
Total Mindfulness	Yes	150	4.12	.443	2.568	**.011***
	No	83	3.97	.401		

$p < .05$

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Table 2. ANOVA Results Based on the Position Variable.

Variable	Group	n	$\overline{X}$	Sd	F	p	Bonferroni
Awareness	Attacker A	53	4.98	.88	.989	.373	--
	Midfielder B	60	4.77	.78			
	Defender C	120	4.91	.82			
	Total D	233	4.89	.82			
Non-Judgment	Attacker A	53	2.55	1.08	1.532	.218	--
	Midfielder B	60	2.68	.80			
	Defender C	120	2.42	1.00			
	Total D	233	2.51	.98			
Refocus	Attacker A	53	5.02	.87	5.779	**.004***	A>B B<C*
	Midfielder B	60	4.49	.92			
	Defender C	120	4.86	.86			
	Total D	233	4.80	.89			
Total Mindfulness	Attacker A	53	4.18	.47	3.236	**.041***	A>B
	Midfielder B	60	3.98	.41			
	Defender C	120	4.06	.41			
	Total D	233	4.07	.43			

ANOVA Results Based on the Playing Experience Variable

Variable	Group	n	$\overline{X}$	Sd	F	p	Bonferroni
Awareness	5 and less A	63	4.54	.92	4.568	**.001***	
	6-10 B	105	5.03	.70			A<B
	11-14 C	28	5.07	.82			A<C
	15-20 D	26	4.85	.79			
	21 and over E	9	5.26	.91			
	Total F	233	4.89	.82			

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	5 and less A	63	2.74	.98	1.244	.293	--
	6-10 B	105	2.43	.96			
Non-Judgment	11-14 C	28	2.43	.85			
	15-20 D	26	2.50	1.10			
	21 and over E	9	2.24	1.06			
	Total F	233	2.51	.98			
	5 and less A	63	4.48	.80	3.830	**.005***	
Refocus	6-10 B	105	4.90	.95			A<B
	11-14 C	28	4.99	.87			A<E
	15-20 D	26	4.75	.80			
	21 and over E	9	5.42	.69			
	Total F	233	4.80	.89			
	5 and less A	63	3.92	.45	3.350	**.011***	
	6-10 B	105	4.12	.40			
Total Mindfulness	11-14 C	28	4.16	.43			A<B
	15-20 D	26	4.03	.42			
	21 and over E	9	4.31	.42			
	Total F	233	4.07	.43			

**p<.05*

When the t-test results in Table 1 based on the Amateur/Professional variable were examined, it was observed that there was no statistically significant difference in the sub-dimensions of Refocus (t=-1.898, p> .05), Non-Judgment (t=1.431, p> .05) and Total (t=-1.723, p> .05). In the Awareness sub-dimension (t=-2.360, p< .05), a statistically significant difference was observed. This difference occurred in favor of the professional players. In terms of the Performing Mental Training variable, a statistically significant difference was observed in the sub-dimensions of Refocus (t=2.487, p< .05), Awareness (t=2.495, p< .05) and Total (t=2.568, p< .05). This difference occurred in favor of the answer "Yes". No statistically significant difference was observed in the Non-Judgment (t=-.655, p> .05) sub-dimension. In terms of the History of Receiving Mentorship, Psychological Performance Counselling or Therapy from a Sports Psychologist variable, a statistically significant difference was observed in the sub-dimensions of Refocus (t=2.604, p< .05), Awareness (t=2.081, p< .05) and Total (t=2.534, p< .05). This difference occurred in favor of the answer "Yes". No statistically significant difference was observed in the Non-Judgment (t=-.655, p> .05) sub-dimension.

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When the ANOVA results in Table 2 based on the Position variable were examined, it was observed that there was no statistically significant difference in the sub-dimensions of Awareness (F= .989, p> .05) and Non-Judgment (F=1.532, p> .05). In the sub-dimensions of Refocus (F=5.779, p< .05) and Total (F=3.236, p< .05), a statistically significant difference was observed. This difference occurred in favor of Group A between Groups A and B, and in favor of Group C between Groups B and C in the Refocus sub-dimension, and in favor of Group A between Groups A and B in the Total sub-dimension. In terms of the Playing Experience variable, a statistically significant difference was observed in the sub-dimensions of Awareness (F=4.568, p< .05), Refocus (F=3.830, p< .05) and Total (F=3.350, p< .05). This difference occurred in favor of Group B between Groups A and B, and in favor of Group C between Groups A and C in the Awareness sub-dimension, in favor of Group B between Groups A and B, and in favor of Group E between Groups A and E in the Refocus sub-dimension, and in favor of Group B between Groups A and B in the Total sub-dimension. No statistically significant difference was observed in the Non-Judgment (F=1.244, p> .05) sub-dimension.

4. Discussion.

In the present study, the mindfulness levels of male soccer players playing for various clubs in Turkey were examined based on their amateur/professional status, position, playing experience, history of receiving mentorship, psychological performance counselling or therapy from a sports psychologist, and status of performing mental training. It was found that while the professional soccer players had higher awareness levels compared to amateur players, there was no significant difference between them in terms of non-judgment and refocus. Awareness, which is the most fundamental aspect of mindfulness, enables soccer players to notice the feelings they labeled as pleasant or unpleasant, their mental flutters or physical sensations (Kabat-Zinn, 2013). At this point, it can be said that awareness is the precursory structure for athletes to cope with challenging psychological conditions. Considering that they are under greater pressure compared to amateur athletes, it can be considered that professional athletes develop awareness as a defense mechanism to stay professional and to improve their performance. It can also be said that advisory support from sports psychologists, mentors or psychological performance consultants, to which professional athletes have more access compared to amateur athletes, may lead them to develop awareness.

According to another finding of the present study, it was observed that athletes who received advisory support from sports psychologists, mentors or athletic performance consultants had higher levels of awareness and mindfulness and more success in the Refocus sub-dimension. At this point, it can be said that receiving psychological support will increase the mindfulness levels of athletes. Considering the information above, it is not surprising that professional soccer players were found to have higher mindfulness levels compared to amateur soccer players. In the related literature, no study was found comparing the mindfulness level of professional and amateur athletes. However, in a previous study examining the athletic success tendencies of professional and amateur athletes, it was revealed that professional athletes were more task-oriented compared to amateur athletes (Skordilis, Gavriilidis,

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Charitou & Asonitou, 2003). In another study conducted with university student-athletes, it was found that awareness was a predictor of task orientation (McCarthy, 2011). In this context, it can be considered that the high awareness levels of professional athletes may enable them to develop a task-oriented personality.

It was also found that mental training was related to high awareness, mindfulness and refocus. According to Horst (2010), the work of training the mental aspects of athletic performance should start with improving mindfulness. Considering that mental training is a way to improve the inner awareness of athletes, its relationship with mindfulness has been attracting interest from researchers. As a result of this, it is observed that modern mental training programs for athletes are based on mindfulness (Kaufman, Glass & Pineau, 2018). While breathing and meditation play an important role in traditional mental training programs (Ungerleider, 2005), the fact that breathing exercises and meditation are included among the main elements of mindfulness (Kabat-Zinn, 2009) indicates a significant common point between the two structures. Athletes who perform mental training are able to focus on their breathing and refocus on the present moment by collecting their attention. Although no studies were found in the related literature examining this direct relationship with mindfulness, it was previously reported that mindfulness-based mental training programs improved the flow and athletic confidence of athletes (Kaufman, Glass & Arnkoff, 2009). It can be said that flow and athletic confidence are grounded in mindfulness.

It was determined that attackers and defenders were more successful in terms of refocusing compared to midfielders. Refocus can be considered as the actional aspect of mindfulness. It can be considered that soccer players can improve their morale on the pitch through refocusing. At this point, it can be said that while the mistakes made by attackers and defenders may stand out, the mistakes of midfielders are relatively more tolerable. The fact that attackers and defenders are more successful compared to midfielders in terms of refocusing can be attributed to this.

In terms of playing and training experience, it was determined that awareness, mindfulness and refocus increased in direct proportion to playing experience. It is thought that athletes with more experience have higher levels of mindfulness due to the fact that not only physical skills but also psychological skills develop in line with playing experience. Accordingly, soccer players with more playing experience have a lower motivation to display strength (Turhan, 2009), higher self-esteem (Aydoğan, 2016) and a greater rate of using imagination in sports (Miçooğulları, Kirazcı & Özdemir, 2009). These factors may be considered as obstacles to mindfulness for athletes with less experience.

5. Conclusion.

In conclusion, the mindfulness levels of male soccer players were examined based on different variables. It was observed that the most distinct difference occurred based on the participants' amateur/professional status. The high mindfulness levels of professional athletes are attributed to the fact that they regard soccer as their occupation and therefore embark on the game more intensely. In addition to this, considering the importance of professional players' performance in the great soccer industry, various other factors may contribute to the increase of mindfulness. Among these, the leading factor is the opportunity of players to receive support

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from mentors, sports psychologists or psychological performance counselors. In the present study, it was determined that players who received such advisory help had higher mindfulness levels compared to those who did not. Statistically significant differences were observed based on the variables of playing experience and position. While athletes achieve higher motivation towards their occupation and develop many skills as their experience increases, it can also be said that the development of their psychological skills also plays a role. Finally, in the evaluated based on the position of the players, it was determined that attackers, whose playing style is more result-oriented and memorable, had the highest mindfulness levels. Considering that the game quality in soccer may vary based on the presence of players with more experience in professional leagues and particularly attackers, the relationship between players' performances and mindfulness levels can be understood more clearly.

6. Limitations and Recommendations.

The findings of this study have to be seen in light of some limitations. The current research includes only male soccer players. However, it may be considered to study with female soccer players and different sports branches. The results are limited to the current sample group in the light of self-report measurement tools. Qualitative research methods can also be added to future studies.

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