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Stress Sources of Hockey Referees and the Emotion-Centered Approaches that they Use to Cope*

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Abstract

The aim of this study is to examine the stress sources of hockey referees and the emotion-centered approaches that they use to cope with these stress sources according to demographic characteristics. For this purpose, 69 of the 150 hockey referees who were active in the 2021-2022 Indoor Season constituted the sample of the study. The data of the study were collected by adapting the items of the Stress Scale developed by Erdem (2015) for wrestling referees to hockey referees. Descriptive statistics and non-parametric tests were used in the analysis. The findings showed that according to averages; hockey referees think “wrong decision” as the most, and as for ranking; “verbal attack by the coach,” “verbal attack by the players,” “verbal attack by the spectators,” “threat of physical attack by others” and “attempt by the referees higher category than you to influence your decisions during the competition” as sources of stress; it points out that they use a “positive cognitive approach” as a coping method. However, stress sources are by gender and referee category; methods of coping with stress also differ according to age, marital status and refereeing category. As a result, it is possible to say that hockey referees use positive cognitive approach to cope with wrong decision-making, the threat of physical and verbal attacks and performance concerns that stress them; the refereeing category is both a source of stress and a determining demographic variable in coping with stress.

Keywords: Coping with Stress, Emotion-Centered Approaches, Hockey, Referee, Sources of Stress

1. Introduction

In daily and business life, many events and situations are encountered that push people to stress. This event that causes stress and the reactions given to the situations are important in order to get rid of the negativities that stress may create and cope with stress. Stress is also inherent in sports, especially where competition is high, and affects actors who share the environment.

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According to Mason (1975), stress is the response of the organism to an internal situation (stress), to an external event (stressor) or a reaction to experience resulting from the process between a person and the environment (as cited in Aldwin, 2007). Stress causes a negative emotional response which can include cognitive, behavioral, physiological, and biochemical changes in order to change the situation that creates stress or adapt to its effects (Williams et al., 2018). Situations and events that are the source of stress and push people to stress cause negativity as mental health, performance, satisfaction, attention, various diseases, disabilities, etc. (Voight, 2009). It is also an influential element in psychological well-being in the sports environment (Didymus et al., 2021a). Although there are many sources of stress, individual, competitive and organizational factors are generally emphasized in the sports literature (Didymus et al., 2021b). Fear of physical harm by players, coaches, spectators, and fear of failure and appearing inadequate can be given as examples of these factors (Dorsch & Paskevich, 2007).

Coping with stressful events consists of learned behavioral responses that successfully reduce stress by limiting the importance of dangerous or unpleasant situations. The ability to cope with stressful events during sports events is an integral part of successful performance (Anshel & Anderson, 2002). According to Lazarus and Folkman (1984), coping is a dynamic process of cognitive and behavioral interventions to deal with internal or external demands that challenge or exceed an individual's resources (Bathla & Yadav, 2017). In the literature, many methods and approaches to cope with stress are mentioned. One of them is emotion-centered approaches. In the approach; the focus is on using thoughts or emotions to feel better when performing the task (Anshel & Weinberg, 1996). There is an emotional regulation or reconsideration of the stressful situation (Ekmekçi, 2008). It includes positive cognitive approach, negative cognitive approach and behavioral approach. These refer to positive thoughts and continuing the task, not continuing the task due to negative thoughts, and behavioral responses to the source of stress (Erdem, 2015).

Refereeing is one of the most challenging and laborious tasks within the field of sports (Diotaiuti et al., 2017) and a key position in sports organizations (Martínez-Moreno et al., 2021). They are responsible for managing the game well and ensuring fair play (Werger, 2017). This depends on the decisions to be made are fast and accurate; hence it is stressful. Stress can affect concentration and focus; the best performance is not possible without them (Bayston, 2011). Referees who also have the best performances are also indicated to have a great ability to cope with stress (Blumenstein & Orbach, 2014). For this reason, it is considered important to determine the methods of coping with stress in order to eliminate the stress sources and negativities that may have a negative effect on the good performance of the referees and it is thought that they can contribute to the refereeing literature. Based on this idea; referees in hockey, one of the most popular sports in many countries and one of the olympic sports, were discussed.

This research aimed to examine the hockey referees' stress sources and the emotion-centered approaches they use to cope with these stress sources according to demographic characteristics. In this direction, the following questions were answered:

- What are the stress sources for hockey referees?
- What is the importance ranking of the hockey referees' stress sources?
- What are the hockey referees' emotion-centered approaches that they use to cope with stress sources?
- Do hockey referees' stress sources and emotion-centered approaches they use to cope with differ according to gender?
- Do hockey referees' stress sources and emotion-centered approaches they use to cope with differ according to marital status?
- Do hockey referees' stress sources and emotion-centered approaches they use to cope with differ according to age?
- Do hockey referees' stress sources and the emotion-centered approaches they use to cope with differ according to the refereeing category?
- Do hockey referees' stress sources and the emotion-centered approaches they use to cope with differ according to the refereeing year?

2. Method

69 of the 150 hockey referees active in the 2021-2022 Indoor Season constituted research sample which was designed as descriptive and quantitatively.

Demographic characteristics of the referees are shown in Table 1.

Table 1: Demographic Characteristics of Hockey Referees

Variables		N	f	%
Gender	Female	16	16	23.2
	Male	53	53	76.8
Age Range	18-22 years	10	10	14.5
	23-27 years	16	16	23.2
	28-32 years	11	11	15.9
	33 and over	32	32	46.4
Marital Status	Married	38	38	55.1
	Single	31	31	44.9
Refereeing Category	Candidate Referee	14	14	20.3
	Provincial Referee	40	40	58.0
	National Referee	8	8	11.6
	International Referee	7	7	10.1
Refereeing Year	1-3 years	43	43	62.3
	4-6 years	17	17	24.6
	7-9 years	7	7	10.1
	10 years and over	2	2	2.9
	Total	69	69	100

The data of the study were obtained through Google Forms between 23-25 December 2021. As a data collection tool, a personal information form and a version of several items adapted to hockey referees of Stress Scale which was developed by Erdem (2015) for wrestling referees were used. In the first part of the Stress Scale, which consists of two parts, 20 items are aimed at the stress sources of the referees; in the second part, there are 16 items on methods of coping with stress. The sub-dimensions of stress sources; the threat of physical and verbal attack (4 items), the presence of others (5 items), performance concern (5 items), wrong decision (3 items) and error in mechanics (3 items) are evaluated in the 5-point likert type as 1=Not Stressful at all, 5=Extremely Stressful. Methods of coping with stress consist of the sub-dimensions of positive cognitive approach (9 items), negative cognitive approach (4 items) and behavioral approach (3 items) and are evaluated in the 5-point likert type as 1=Never, 5=Always. Internal consistency coefficients of the scale in stress sources sub-dimensions are .758 for the threat of physical and verbal attack, .741 for the presence of others, .736 for performance concern, .750 for wrong decision, .672 for error in mechanics, in sub-dimensions of stress coping methods are .787 for positive cognitive approach, .726 for the negative cognitive approach and .655 for the behavioral approach (Erdem, 2015). The cronbach alpha values in this research are; α (threat of physical and verbal attack) = .797, α (presence of others) = .746, α (performance concern) = .784, α (wrong decision) = .796, α (error in mechanics) = .700, α (positive cognitive approach) = .830, α (negative cognitive approach) = .833 ve α (behavioral approach) = .702. In the analysis of the data; due to descriptive statistics and lack of normal distribution of data, Mann Whitney-U tests were used in bilateral comparisons from non-parametric tests, Kruskal Wallis H tests were used in more than two comparisons and manual Mann Whitney-U tests were used to determine the source of the difference.

3. Results

The findings of the study are presented in the form of tables below:

Table 2: Stress Sources of Hockey Referees According to Sub-Dimensions

Sub-Dimensions	N	\bar{X}	SD	Min.	Max.
The Threat of Physical and Verbal Attack	69	1.99	.80083	1.00	4.00
The Presence of Others	69	2.04	.78311	1.00	4.60
Performance Concern	69	1.77	.74198	1.00	4.00
Wrong Decision	69	2.29	.90075	1.00	4.67
Error in Mechanics	69	2.10	.93777	1.00	5.00

In Table 2, the stress sources of the hockey referees participating in the study according to the sub-dimensions are given. Accordingly; in order of, wrong decision ($\bar{X} = 2.29$), error in mechanics ($\bar{X} = 2.10$), the presence of others ($\bar{X} = 2.04$), the threat of physical and verbal attack ($\bar{X} = 1.99$) and performance concern ($\bar{X} = 1.77$) sub-dimensions are seen to be a source of stress.

Table 3: Importance Ranking of Stress Sources of Hockey Referees

Stress Sources	1. Importance	2. Importance	3. Importance	4. Importance	5. Importance	Ranking
Verbal attack by the coach	19	12	5	8	8	1
Verbal attack by the players	3	12	13	7	5	2
Verbal attack by the spectators	3	7	13	9	6	3
The threat of physical attack by others	3	3	4	8	9	4
Deciding on a penalty	2	-	2	3	2	14
Making conflicting decisions	4	5	5	1	2	8
Making the wrong or erroneous decision	7	8	1	3	2	6
Being in the wrong place or position on the field	2	1	2	2	2	15
Presence of Referee Delegate or Refereeing Commission	4	1	3	1	5	10
Having problems with partners	3	1	2	4	4	11
Too frequent changes in the rules	-	1	3	2	2	16
Thinking that there will be an objection after the competition	-	1	-	1	-	19
Lack of on-site guidelines and regulations	-	4	1	3	3	13
Field arrangement and other elements that do not have a duty in the competition area	1	-	2	-	2	18
Evaluation score by the first referee	2	1	3	5	4	9
Being criticized by others	-	-	-	-	-	-
Not feeling physically and psychologically ready	5	2	4	2	1	12
Showing yellow and red cards	1	1	1	1	2	17
To be assigned to competitions with high difficulty	1	8	2	4	3	7
Attempt by the referees higher category than you to influence your decisions during the competition	9	1	3	5	7	5

According to Table 3, where the importance of the stress sources of hockey referees is seen; the top five sources of stress are verbal attack by the coach, verbal attack by the players, verbal attack by the spectators, the threat of physical attack by others, attempt by the referees higher category than you to influence your decisions during the competition.

Table 4: Hockey Referees' Methods of Coping with Stress Sources According to Sub-Dimensions

Sub-Dimensions	N	\bar{X}	SD	Min.	Max.
Positive Cognitive Approach	69	4.10	.70461	1.11	5.00
Negative Cognitive Approach	69	1.64	.67710	1.00	5.00
Behavioral Approach	69	2.97	.84741	1.00	5.00

Looking at the methods of coping with stress sources of hockey referees; they have used positive cognitive approach the most ($\bar{X} = 4.10$) and the least negative cognitive approach ($\bar{X} = 1.64$).

Table 5: Mann Whitney-U Test Results on Stress Sources and Coping Methods of Hockey Referees by Gender

	Sub-Dimensions	Gender	N	Mean Rank	Sum of U Ranks	p
Stress Sources	The Threat of Physical and Verbal Attack	Female	16	48.22	771.50	.002**
		Male	53	31.01	1643.50	
	The Presence of Others	Female	16	49.72	795.50	.001**
		Male	53	30.56	1619.50	
	Performance Concern	Female	16	42.31	677.00	.093
		Male	53	32.79	1738.00	
Wrong Decision	Female	16	48.72	779.50	.002**	
	Male	53	30.86	1635.50		
Error in Mechanics	Female	16	46.63	746.00	.008**	
	Male	53	31.49	1669.00		
Coping Methods	Positive Cognitive Approach	Female	16	35.50	568.00	.909
		Male	53	34.85	1847.00	
	Negative Cognitive Approach	Female	16	40.19	643.00	.231
		Male	53	33.43	1772.00	
	Behavioral Approach	Female	16	39.78	636.50	.272
		Male	53	33.56	1778.50	
		Total	69			

*p<0.05, **p<0.01

According to the gender of the referees, while there was a significant difference in favor of female referees in the sub-dimensions of stress sources, the threat of physical and verbal attack, the presence of others, wrong decisions and error in mechanics (p<0.01); no differences were found in the sub-dimension of performance concern and sub-dimensions of coping methods (p>0.05).

Table 6: Mann Whitney-U Test Results on Hockey Referees' Stress Sources and Coping Methods by Marital Status

	Sub-Dimensions	Marital Status	N	Mean Rank	Sum of U Ranks	p
Stress Sources	The Threat of Physical and Verbal Attack	Married	38	37.80	1436.50	.195
		Single	31	31.56	978.50	
	The Presence of Others	Married	38	34.13	1297.00	.689
		Single	31	36.06	1118.00	
	Performance Concern	Married	38	36.63	1392.00	.451
		Single	31	33.00	1023.00	

Coping Methods	Wrong Decision	Married	38	35.36	1343.50	575.50	.869
		Single	31	34.56	1071.50		
	Error in Mechanics	Married	38	36.51	1387.50	531.50	.484
		Single	31	33.15	1027.50		
	Positive Cognitive Approach	Married	38	39.43	1498.50	420.50	.042*
		Single	31	29.56	916.50		
	Negative Cognitive Approach	Married	38	33.93	1289.50	548.50	.620
		Single	31	36.31	1125.50		
	Behavioral Approach	Married	38	34.61	1315.00	574.00	.855
		Single	31	35.48	1100.00		
Total			69				

*p<0.05, **p<0.01

According to the marital status of the referees; while there was no difference in the sub-dimensions of stress sources and in the sub-dimensions of negative cognitive approach and behavioral approach in coping ($p>0.05$), a significant difference was found in favor of married ones in positive cognitive approach in coping methods ($p<0.05$).

Table 7: Kruskal Wallis H Test Results on Stress Sources and Coping Methods of Hockey Referees by Age

Sub-Dimensions		Age	N	Mean Rank	df	χ^2	p
Stress Sources	The Threat of Physical and Verbal Attack	18-22 years	10	26.15	3	2.464	.482
		23-27 years	16	35.31			
		28-32 years	11	38.36			
		33 years and over	32	36.45			
	The Presence of Others	18-22 years	10	40.65	3	1.186	.756
		23-27 years	16	32.16			
		28-32 years	11	33.55			
		33 years and over	32	35.16			
	Performance Concern	18-22 years	10	41.80	3	1.423	.700
		23-27 years	16	33.03			
		28-32 years	11	34.86			
		33 years and over	32	33.91			
Wrong Decision	18-22 years	10	41.35	3	1.552	.670	
	23-27 years	16	31.81				
	28-32 years	11	33.00				
	33 years and over	32	35.30				
Error in Mechanics	18-22 years	10	37.40	3	.697	.874	
	23-27 years	16	31.56				
	28-32 years	11	35.05				
	33 years and over	32	35.95				
Coping Methods	Positive Cognitive Approach	18-22 years	10	40.25	3	14.340	.002**
		23-27 years	16	18.69			
		28-32 years	11	36.18			
		33 years and over	32	41.11			
	Negative Cognitive Approach	18-22 years	10	38.90	3	2.735	.434
		23-27 years	16	40.22			
		28-32 years	11	35.14			
		33 years and over	32	31.13			
Behavioral Approach	18-22 years	10	34.25				
	23-27 years	16	35.75				

28-32 years	11	44.55	3	3.528	.317
33 years and over	32	31.58			
Total	69				

*p<0.05, **p<0.01

In Table 7, according to the age of the referees there was no significant difference in negative cognitive approach and behavioral approach which are sub-dimensions of coping methods and stress sources ($p>0.05$). A significant difference was determined in the positive cognitive approach that is sub-dimension of stress coping methods ($p<0.01$). The results of the manual Mann Whitney-U test to determine which age groups this significant difference was due to are presented in Table 8.

Table 8: Results of the Manual Mann Whitney-U Test to Determine the Source of the Difference in the Positive Cognitive Approach Sub-Dimension from Stress Coping Methods

Sub-Dimensions	Age	N	Mean Rank	Sum of Ranks	U	p
Positive Cognitive Approach	18-22 years	10	18.10	181.00	34.00	.015*
	23-27 years	16	10.63	170.00		
	18-22 years	10	11.95	119.50	45.50	.502
	28-32 years	11	10.14	111.50		
	18-22 years	10	21.20	212.00	157.00	.929
	33 years and over	32	21.59	691.00		
	23-27 years	16	10.75	172.00	36.00	.010**
	28-32 years	11	18.73	206.00		
	23-27 years	16	14.31	229.00	93.00	.000**
	33 years and over	32	29.59	947.00		
	28-32 years	11	19.32	212.50	146.50	.410
	33 years and over	32	22.92	733.50		

*p<0.05, **p<0.01

In positive cognitive approach sub-dimension, it was found that there was a significant difference in favor of those whose ages are 18-22 ($p<0.05$) in the referees between the ages of 18-22 and 23-27, in favor of those whose ages are 28-32 in the referees between the ages of 23-27 and 28-32, and in favor of those whose ages are 33 and over in the referees aged 23-27 and 33 years and over ($p<0.01$).

Table 9: Kruskal Wallis H Test Results on Stress Sources and Coping Methods of Hockey Referees by Refereeing Category

Sub-Dimensions	Refereeing Category	N	Mean Rank	df	χ^2	p	
Stress Sources	The Threat of Physical and Verbal Attack	Candidate	14	36.36	3	5.921	.116
		Provincial	40	36.40			
		National	8	40.44			
		International	7	18.07			
	The Presence of Others	Candidate	14	42.11	3	4.803	.187
		Provincial	40	33.41			
		National	8	40.31			
		International	7	23.79			
	Performance Concern	Candidate	14	46.21	3	9.018	.029*
		Provincial	40	31.79			
		National	8	41.94			
		International	7	23.00			
Wrong Decision	Candidate	14	46.68				
		40	32.23				

Coping Methods			Provincial	8	34.00	3	6.356	.096
			National	7	28.64			
			International					
	Error in Mechanics		Candidate	14	40.21			
			Provincial	40	33.74			
			National	8	41.63	3	4.067	.254
			International	7	24.21			
	Positive Cognitive Approach		Candidate	14	39.79			
			Provincial	40	33.31			
			National	8	33.75	3	1.156	.764
		International	7	36.50				
Negative Cognitive Approach		Candidate	14	41.68				
		Provincial	40	32.93				
		National	8	49.00	3	11.541	.009**	
		International	7	17.50				
Behavioral Approach		Candidate	14	34.50				
		Provincial	40	32.59				
		National	8	52.38	3	7.179	.066	
		International	7	29.93				
		Total	69					

*p<0.05, **p<0.01

Among the stress sources sub-dimensions; there was a significant difference in performance concern ($p<0.05$), and negative cognitive approach from the coping methods sub-dimensions ($p<0.01$) according to the refereeing category. The results of the manual Mann Whitney-U test to determine the source of the difference are given in Table 10 and Table 11.

Table 10: Results of the Manual Mann Whitney-U Test to Determine the Source of the Difference in the Sub-Dimension of Performance Concern from Stress Sources

Sub-Dimensions	Refereeing Category	N	Mean Rank	Sum of Ranks	U	p
Performance Concern	Candidate	14	35.50	497.00	168.00	.026*
	Provincial	40	24.70	988.00		
	Candidate	14	12.50	175.00	42.00	.338
	National	8	9.75	78.00		
	Candidate	14	13.21	185.00	18.00	.019*
	International	7	6.57	46.00		
	Provincial	40	23.15	926.00	106.00	.132
	National	8	31.25	250.00		
	Provincial	40	24.94	997.50	102.50	.255
	International	7	18.64	130.50		
	National	8	9.94	79.50	12.50	.068
	International	7	5.79	40.50		

*p<0.05, **p<0.01

There is a significant difference in favor of the candidate referee compared to the referee as provincial and international category according to the referee category of the performance concern sub-dimension which is one of the stress sources ($p<0.05$).

Table 11: Results of the Manual Mann Whitney-U Test to Determine the Source of the Difference in the Negative Cognitive Approach Sub-Dimension from Stress Coping Methods

Sub-Dimensions	Refereeing Category	N	Mean Rank	Sum of Ranks	U	p
Negative Cognitive Approach	Candidate	14	32.61	456.50	208.50	.152
	Provincial	40	25.71	1028.50		
	Candidate	14	10.79	151.00	46.00	.490
	National	8	12.75	102.00		
	Candidate	14	13.29	186.00	17.00	.015*
	International	7	6.43	45.00		
	Provincial	40	22.60	904.00	84.00	.032*
	National	8	34.00	272.00		
	Provincial	40	25.61	1024.50	75.50	.049*
	International	7	14.79	103.50		
	National	8	11.25	90.00	2.00	.002**
International	7	4.29	30.00			

*p<0.05, **p<0.01

There is a difference in the negative cognitive approach sub-dimension, one of the methods of coping with stress, between the referees in candidate and international categories in favor of the candidate referee (p<0.05); between the referees in provincial and national categories in favor of the national referee (p<0.05); between the referees in the provincial and international categories in favor of the provincial referee (p<0.05); between the referees in the national and international categories in favor of the national referee (p<0.01).

Table 12: Kruskal Wallis H Test Results on Stress Sources and Coping Methods of Hockey Referees by Refereeing Year

Sub-Dimensions	Refereeing Year	N	Mean Rank	df	χ^2	p	
Stress Sources	The Threat of Physical and Verbal Attack	1-3 years	43	36.58	3	3.014	.390
		4-6 years	17	36.24			
		7-9 years	7	22.71			
		10 years and over	2	33.50			
	The Presence of Others	1-3 years	43	39.49	3	6.304	.098
		4-6 years	17	26.71			
		7-9 years	7	26.86			
		10 years and over	2	37.50			
	Performance Concern	1-3 years	43	38.87	3	5.895	.117
		4-6 years	17	29.21			
		7-9 years	7	23.07			
		10 years and over	2	42.75			
	Wrong Decision	1-3 years	43	36.64	3	1.993	.574
		4-6 years	17	34.85			
		7-9 years	7	25.21			
		10 years and over	2	35.25			
	Error in Mechanics	1-3 years	43	37.97	3	4.189	.242
		4-6 years	17	29.47			
		7-9 years	7	26.79			
		10 years and over	2	47.00			
Coping Methods	Positive Cognitive Approach	1-3 years	43	36.30	3	4.538	.209
		4-6 years	17	28.18			
		7-9 years	7	45.86			
		10 years and over	2	27.00			

Negative Approach	Cognitive	1-3 years	43	36.99	3	6.618	.085
		4-6 years	17	38.03			
		7-9 years	7	17.43			
		10 years and over	2	28.00			
Behavioral Approach		1-3 years	43	36.36	3	6.136	.105
		4-6 years	17	32.65			
		7-9 years	7	24.57			
		10 years and over	2	62.25			
		Total	69				

*p<0.05, **p<0.01

In Table 12, it is seen that there is no significant difference in the sub-dimensions of stress sources and coping methods according to the refereeing year ($p>0.05$).

4. Discussion

The findings of this research which was conducted to examine the stress sources of hockey referees and the emotion-centered approaches they use to cope with these stress sources according to demographic characteristics reveal that wrong decisions at moderate level as the highest in terms of averages; and in terms of ranking; verbal attack by the coach, verbal attack by the players, verbal attack by the spectators, the threat of physical attack by others and attempt by the referees higher category than you to influence your decisions during the competition are seen as sources of stress. It was determined that the referees used a high level of positive cognitive approach to cope with the source of stress. However, according to the demographic characteristics of the referees, it was found that there were significant differences in the threat of physical and verbal attack, the presence of others, wrong decision and errors in mechanics sub- dimensions of stress sources in favor of women; in positive cognitive approach from coping with sources of stress in favor of those who are married and generally of later ages; in performance concern sub-dimension of source of stress in favor of candidate referees and in the sub-categories of refereeing in the negative cognitive approach to cope with stress sources. Refereeing year did not make a significant difference in stress sources and coping with stress sources.

The referees are doing a difficult job. Because there are many aspects of the game/match that need to be taken into account: evaluating the actions that occur in the game/match, making quick decisions, managing the game, paying attention to many aspects of the game, maintaining order and resolving disputes. All these not only complicate the referee's job too much but also make it easier to make mistakes. As it's result; they should be prepared to be criticized for the referee's decision (Guillén & Feltz, 2011; Saputra et al., 2018). In this respect, it is possible to say that it is an expected finding that making wrong decisions will come to the fore as a source of stress in refereeing which includes decision making in essence. While the source of stress' being at moderate level is compatible with the stress levels of the football referees in Güllü and Yıldız's (2019) studies; it is not compatible with Soriano Gillué et al.'s (2018) study that perceived stresses of football referees outside the match are at high level compared to those inside the match Although football has a dominant advantage, hockey is also the second sport with the highest number of spectators after football in the Olympic Games (THF, 2022). Therefore, the difference between the findings is remarkable In terms of rankings, that wrestling referees see verbal attack by the coach secondly as a source of stress in Erdem's (2015) suggest that there is a difference due to the fact that this research has been conducted with hockey referees. Gürpınar (2015) found that the stress sources of wheelchair basketball referees were attempt of physical and verbal attack at the highest level. This finding overlaps with the top four items in the research's stress source ranking.

Erdem (2015) and Gürpınar (2015) have also reached a similar point to hockey referees who chose to continue their duties with positive thoughts in coping with stress sources. In addition, Bathla and Yadav (2017) state that field hockey referees use goal-setting and mental preparation strategies to cope with stress. Both the finding of this research and the finding of the work of Bathla and Yadav (2017) reveal that hockey referees use different methods to cope with sources of stress.

Reid and Dallaire (2019) state that women are underrepresented in leadership positions within the historically patriarchal sports institution and face various challenges as coaches, referees or managers. The finding of the referees who participated in the study in favor of women in terms of gender distribution and stress sources is an indication that women are more stressed and it supports this discourse in a way. Similarly, Koca and Yıldız (2018) indicate that female football referees and Atmaca (2020) notes that women handball referees are more stressed.

It suggest that the significant difference in favor of married referees in terms of positive cognitive approach to cope with stress sources is due to the fact that married referees develop more constructive and good thoughts and approaches to solving problems in family environment. There are also studies in the literature that differ with the findings of the research. Söylemez (2019) in hockey referees and Öztürk (2020) in folk dance referees found that marital status was not a determining variable in their way of coping with stress.

It is stated that the way referees perceive stress depends on experience and age. Young referees are more stressed than older referees especially in regard with the possibility of making mistakes (Diotaiuti et al., 2017). However, the finding of the research reveals that age and year of refereeing do not differ in sources of stress. On the other hand, life experiences with increasing with age bring about being constructive and positive in the approach to many problematic situations. It is therefore possible to explain that the significant difference between the referees aged 23 to 27 and 28 to 32 is in favor of hockey referees aged 28 to 32; and between the referees aged 23 to 27 and 33 and older is in favor of the referees aged 33 and older. On the other hand, it is thought that the significant difference between the referees aged 23-27 and 18-22 is in favor of the referees aged 18 to 22 can be explained in the context of the excitement of the task and the fact that the negative or behavioral cognitive approach is not preferred because the age range coincides with the starting age of refereeing.

Candidate referees consider performance concern as a source of stress more than referees in other categories. As candidate refereeing refers to beginners to refereeing and the lowest category of refereeing, and since the referees in this category have limited experience compared to referees in other categories; this finding is an expected finding. In contrast, Görün et al. (2020) state that perceived stress in football referees does not differ by classification. On the other hand, it is possible to explain also the difference in the sub-categories of refereeing concerning not to continue task by having negative thoughts in coping with stress sources for hockey referees with the limitation of experience. To put it another way; although the year of refereeing does not make a significant difference in coping with stress, it is possible to say that the referees in the higher categories use the negative cognitive approach less in coping with stress is directly proportional to their experience. In Bayston's (2011) study, the finding that the action tendencies shown by non-elite referees and the coping strategies they use to alleviate the negative emotions they experienced contribute to significant effects on their subsequent decision-making processes supports the interpretation.

5. Conclusions and Recommendations

In line with the findings of the research, it was concluded that the stress sources of hockey referees were wrong decision making, the threat of physical and verbal attacks and performance concern; that they continued their tasks with positive thoughts in order to cope with sources of stress which were the elements that cause stress (positive cognitive approach); and in terms of demographic characteristics, gender and refereeing category in stress sources; age, marital status and refereeing category in coping were decisive.

According to the results of the research, the factors that push hockey referees to stress and the planning of the trainings towards coping methods in order to reduce the negative effects caused by these elements; variables not discussed in this study and parameters to be related may be suggested to be included in subsequent studies.

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