

Sources of Stress and Refereeing Experience of Active Kenya Rugby Union Referees

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ABSTRACT

Background: Rugby referees have for a long time volunteered to officiate matches in Kenya yet refereeing as an activity is stressful. **Objective:** This study used a cross-sectional descriptive research design to investigate the impact of the experience of the active rugby union referees in Kenya on the sources of stress affecting them. **Method:** A Sources of Officiating Stress Questionnaire (SOSQ) (Voight, 2009) was used to collect data from all referees (n=80) who actively refereed matches during the 2016 / 2017 Kenya Rugby Union season. The independent variable tested in the questionnaire was experience of the referees, whereas the dependent variables were sources of stress. **Results:** Referees with an experience of between 5 to 10 years encountered stress from most of the sources (Mean= 3.17, SD=0.62) whereas those with an experience of between 10 to 20 years encountered stress from the least of the sources (Mean=2.93, SD=0.60). Findings indicated that there was a significant mean difference in sources of stress across refereeing experience (F -statistic =2.175, p =0.009). **Conclusion:** It was concluded that all active referees experienced stress from different sources despite their years of experience.

Key words: Rugby Union, Officiating, Sources of Stress, Performance, Referees, Experience

INTRODUCTION

Rugby has witnessed unprecedented popularity and growth over the recent years, not only in Kenya but also globally. As the sport transitions into a semi-professional outfit in Kenya, a change in the quality and quantity of matches being played is evident. As a result, there is more pressure on referees to meet the growing demands of officiating matches to the expected standards (Kenya Rugby Union, [KRU], 2016).

The field of sports psychology continues to give attention to research related to sources of stress associated with refereeing sports contests due to the importance of referees in the management of competitions (Dorsch & Paskevich, 2007; Anshel, Kang & Jubenville, 2013). The current sports environment is very competitive due to the personal, social, economic and political benefits participants expect to draw from their involvement in sports (Nazarudin, Abdullah, Parnabas et al., 2018). Therefore, referees, having a particular influence on the outcome of sports contests, are exposed to stress before, during and after performance (Mirjamali, Ramzaninezhad, Rahmaninia et al., 2012). Stress in refereeing is defined as a psychological reaction to the concerns experienced by referees due to the demanding events associated with their work environment. When well-managed, stress promotes well-being, satisfactory performances and persistence. Conversely, when not well managed, stress can lead to burnout which can cause poor performance and intentions to quit (Guillén & Feltz, 2011). Therefore, the study of sources of stress is important in equipping practitioners

with knowledge that will guide them to implement better stress intervention programmes for referees to achieve optimal performances that will lead to greater enjoyment and fulfilment by players, spectators and the referees themselves.

Experience has been taken into consideration while analyzing sources that cause stress to referees but contradicting findings have emerged (Dorsch & Paskevich, 2007). Folkesson, Nyberg, Archer et al. (2002), on one hand, sought to establish if the referees' age and experience had an impact on exposure to the stressful events of threat and aggression. They found out that both younger and less experienced referees were likely to encounter stress emanating from verbal abuse and intimidation by players, coaches and spectators. However, their study did not statistically demonstrate that there was a negative relationship between age and experience which would lead to the conclusion that the more experienced referees became, the less exposed they were to the stressors. In fact, the authors found out that older referees with less experience were less exposed to threat and aggression as compared to younger referees with both lesser and greater experience. These findings had a greater bearing on the age of the officials than their years of experience. Thus, these findings may not provide a plausible explanation regarding the relationship between experience and sources of stress. Moreover, this study tested the impact of experience on the stressful events of threat and aggression only. So, the findings may not be generalized to other populations which encounter stress from different sources.

Dorsch & Paskevich (2007), on the other hand, assessed the influence of certification level on the sources of stress of ice hockey officials using years of experience as a covariate and found out that although officials in the highest two levels (5 and 6) of certification were not significantly different in respect to years of experience, they were significantly more experienced than their counterparts with lower certification levels. Similarly, the authors established that officials with low certification levels encountered less stress than those with higher certification levels. It can therefore be speculated that sources of stress increased with years of experience. Although this study used more sources of stress compared to the earlier study by Folkesson et al., (2002), years of experience was a covariate thus it was not of primary interest. A further interrogation using years of experience as an independent variable would be necessary.

Findings from the above studies showed that referees of different years of refereeing experience encountered stress from different sources. Additionally, they showed that refereeing experience influenced the sources of stress. However, both findings were equivocal when used to examine the relationship between years of refereeing experience and sources of stress. They failed to answer the question whether there was any significant relationship between refereeing experience and sources of stress which could be generalized to other populations. Experience can be defined as the number of years a referee practically officiates matches (Dosseville, Laborde & Raab, 2011) which determines how long a referee is exposed to and interacts with the demands of the officiating environment. Based on this definition, the present study assumed that the more experienced a referee became, the less sources of stress they encountered because, over time, they become familiar with the demands of environment. As a result, they develop skills and an image that help cushion them from the enduring stress. Therefore, the purpose of the current study was to identify the sources of stress affecting Kenyan rugby union referees based on their years of experience, while the objective of this study was to examine whether there is significant mean difference in sources of stress across refereeing experience.

METHOD

Study Design and Sample

The study used the cross-sectional analytical research design. Data was collected from all the 80 (67 male and 13 female) rugby referees who were registered with the Kenya Rugby Referees Association and were active during the 2016 / 2017 Kenya Rugby Union season. Due to the small population, a census procedure was used. The independent variable tested was experience of the referees, whereas the dependent variables were sources of stress. Ethical clearance (reference number: PKU/659/1739) was granted by Kenyatta University Ethics Review Committee before the researcher visited the selected counties within the existing nine KRU districts to collect data. The referees age ranged between 19 and 45 years. Those aged between 19 and 27 years were 18 (22.5%), the ones between 28 and 36 years were 35 (43.75%) while

those between 37 and 45 were 27 (33.75%). In terms of the experience of the participants, 32 (40 %) had an experience of less than 5 years, while those with an experience of between 5 and 10 years were 25 (31%). A total of 18 (23%) had an experience of between 11 and 20 years, while those with over 20 years of experience were 5 (6%).

Data Collection and Procedures

A self-administered questionnaire was used to collect data from the referees. The questionnaire was divided into two sections. Section I was a survey form used to collect demographic information about the participants. Section II was a modified version of Sources of Officiating Stress Questionnaire (SOSQ) (Voight, 2009) and it was used to measure sources of stress. The SOSQ had 32 items which tested the following eight subscales: fear of failure, role conflicts, time pressures, peer conflicts, interpersonal conflicts, making a wrong call, injury concerns, fitness concerns, status of refereeing. These items were summarized into intrapersonal, interpersonal, performance, organizational and environmental sources. The items were weighted on a 5-point Likert scale ranging from 1 (Not at all) to 5 (always) and were scored individually. Eight referees who were refereeing age-grade rugby tournaments at the Rugby Union of East Africa (RFUEA) grounds and Kenya Commercial Bank (KCB) sports club in Nairobi were used to test the reliability and the validity of the questionnaire. This was an equivalent of 10% of the total population. Test-retest was used to measure the reliability of the questionnaire. The questionnaire was administered to the eight referees then the exercise was repeated two weeks later. Cronbach's alpha was used to compute the reliability coefficient. A coefficient of above 0.8 implied that there was consistency among the items on the instrument (Andrew, Pedersen & McEvoy, 2019). After the matches or tournaments, the researcher explained the procedure then distributed consent forms to the referees. The researcher then gave the questionnaires to those who consented. Each referee responded to the provided set of questions in writing in about 15 minutes then handed back the questionnaire to the researcher.

Data Analysis

Data was entered and coded using SPSS version 23 for organisation and analysis before it was summarised in percentages, means and standard deviations. One way Analysis of Variance (ANOVA) was used to determine the statistical differences between the sources of stress and the levels of experience of the referees. The Tukey's post hoc test was conducted to find out which pair-wise differences were significant.

RESULTS

Table 1 shows means and standard deviations of sources of stress of the referees. According to the data, intrapersonal sources ranked first while organizational sources ranked last. Performance, environmental and interpersonal ranked second, third and fourth respectively. The study sought to estab-

lish if the sources of stress differed according to refereeing experience. The results are presented in Table 2 below.

Results in Table 2 show that referees with 5 to 10 years of experience encountered stress from most of the sources (Mean= 3.17, SD=0.61) followed by those with over 20 years' experience (Mean=3.10, SD=0.51), then those with less than 5 years' experience (M= 2.86, SD=0.60) while those with 11-20 years of experience (Mean=2.97, SD=0.60) received stress from the least of the sources.

When Analysis of Variance (ANOVA) was conducted to determine whether there is significant mean difference in the levels of stress based on refereeing experience, results showed that there was a significant mean difference between sources of stress and refereeing experience, at $\alpha=5\%$ significance level [$F(3,76)=2.175$, $p=0.009$, partial]. Subsequently, the Tukey's post hoc test showed that those with refereeing experience of less than 5 years had statistically significant lower levels of stress compared to those with an experience of 5 to 10 years, 11 to 20 years and over 20 years. On the other hand, evidence was not enough to conclude that the mean sources of stress among the referees with refereeing experience of 5 to 10 years, 11 to 20 years and over 20 years, were significantly different from each other (p values >0.05). The results are presented in Table 3 below.

Table 1. Sources of stress of the Rugby referees

Source of stress	Overall mean	Overall SD
Intrapersonal	3.62	0.406
Performance	3.47	1.360
Environmental	3.20	1.362
Interpersonal	3.02	1.226
Organizational	2.24	1.163

Table 2. Mean sources of stress per refereeing experience

	Refereeing Experience			
	<5 years	5 to 10 years	11 to 20 years	>20 years
Overall mean	2.83	3.175	2.93	3.11
Overall SD	0.60	0.62	0.54	0.52

Table 3. Post hoc ANOVA test results for stress level across different refereeing experience

Refereeing experience (I)	Refereeing experience (J)	Mean Difference (I-J)	Std. Error	Sig. ^a
<5 years	5 to 10 years	-0.3070	0.12235	0.008
	11 to 20 years	-0.0804	0.13505	0.006
	>20 years	-0.1625	0.22043	0.002
5 to 10 years	11 to 20 years	0.2266	0.14170	0.385
	>20 years	0.1445	0.22456	0.917
11 to 20 years	>20 years	-0.0821	0.23172	0.985

^abased on Tukey's method.

DISCUSSION

Findings from this study showed that referees received stress from different sources. The referees ranked intrapersonal and performance as the first two sources that contributed most stress to them. This implies that the referees were concerned about producing good performances. These results were expected because rugby union referees in Kenya are volunteers hence, they are committed to the activity because it is something they do out of love and passion. Quite unexpectedly, the results indicated that the sources of stress increased as the referees became more experienced. It was rather expected that due to their longer interaction with the stressful officiating environment, the more experienced referees would endure less stress because they are used to the conditions thus, the sources of stress would reduce as referees gather more experience. This is supported by the argument that more experienced referees are judged as better referees by players, coaches and the public hence, some stressors such as fear of physical and verbal aggression and confrontation with coaches and players would significantly be reduced. (Dosseville et al., 2011). Similarly, experience leads to a mastery of skills which help reduce performance related sources of stress.

Stressful events related to performance sources that were cited by the referees include making a wrong call, intensity of play and physical fitness. According to this study, having a wrong call, was cited by the less experienced referees more than it was cited by the more experienced referees. Having a satisfactory performance during a match is a key outcome for referees. Given that the Kenya Rugby Union bases appointments and promotions of referees on performance, there was a high chance that making a wrong call was going to be an intense source of stress to referees with low experience because of the pressure to produce satisfactory performances for future promotions. However, a counterargument can be used to explain that these findings were not anticipated. Less experienced referees may fail to appraise having a wrong call as a stressor if they consider it as an opportunity to learn as opposed to the more experienced referees from whom a lot more is expected in terms of performance.

Additionally, less experienced referees reported that they were more worried about intensity of play compared to the more experienced referees. This outcome was likely since referees with low experience lack adequate law knowledge and game management tactics to satisfactorily officiate competitive matches hence the stress (Rainey & Hardy, 1999; Cuskelly, 2004).

Compared to less experienced referees, more experienced referees reported to suffer more stress linked to physical fitness. The KRU relies heavily on experienced referees to adjudicate high level league matches and competitions but the modern game demands high levels of fitness (Suarez-Arrones, Núñez, Munguía-Izquierdo et al., 2013; Nazarudin et al., 2018). Most likely, majority of experienced referees end up officiating players way younger than them. With the failing fitness levels due to age, it was expected that more experienced referees would find maintaining the required fitness levels worrisome. (Chamari, Ahmaidi, Fabre et al, 1995).

Injury concerns, fear of failure and time pressures were quoted by referees as intrapersonal sources of stress. Injury concerns were quoted more by the more experienced referees than the less experienced ones. Refereeing involves physical activity and exercise where risk of injury is prevalent (Stults-Kolehmainen & Sinha, 2014). Referee of any experience level can suffer an injury. However, more experienced referees tend to be more advanced in their career and may also have invested more in their growth compared to their less experienced counterparts. Indeed, Dorsch & Paskevich (2007) opined that the most experienced referees had the highest certification levels. Similarly, the matches they officiate could be of greater intensity hence greater risk of injury. Therefore, these results were probable because an injury to them is of a greater concern given that injuries take time to heal and force referees to miss games or retire (Bahr & Holme, 2003; Hislop, Stokes, Williams et al., 2017).

Similarly, more experienced referees were more stressed by fear of failure than their less experienced counterparts. Again this was an expected outcome because experienced referees are usually appointed to officiate high profile matches where good performance is critical hence the pressure (Diotaiuti, Falese, Mancone et al., 2017). Furthermore, matches of that nature normally have experienced and confident players and coaches who are capable of challenging referees' decisions (Dorsch & Paskevich, 2007), therefore the referees may not wish to expose themselves by making poor decisions. Moreover, such matches mostly likely receive media coverage in addition to being attended by passionate fans meaning that their performances are more scrutinized. The referees are also viewed as role models by other referees officiating at lower levels. In addition, they may have won or are looking to win the confidence of players, coaches and the referee selectors. As a result, they are under pressure to perform to show that they deserve to be where they are currently ranked.

Furthermore, time pressures was more prevalent to more experienced referees than it was to the less experienced ones. Time pressures develop over time as referees attempt to balance between their responsibilities as referees and other professional, personal and family commitments. It was therefore not unusual for the more experienced referees to find this stressor more intense compared to the less experienced ones considering that this study focused on experience gathered by referees over the years they had been involved in refereeing. This implied that experienced referees were relatively older and could have accumulated other professional and social roles which were competing for time with refereeing duties (Dell, Gervis & Rhind, 2016).

The low status accorded to the refereeing profession is categorised as an environmental source of stress and was found to bother more referees with less experience. The refereeing environment is often demanding and unfriendly. Indeed, referees face more stressful situations compared to other sports professions. Even so, referees are often ignored and maligned by the public (Cuskelly & Hoye, 2013). Referees therefore perceive it as a thankless job. It is not strange

then that the less experienced referees were more stressed by this factor given their unfamiliarity with the refereeing environment due to the fewer years of interaction with the environment. Conversely, the more experienced referees may not be stressed as much because they may, over time, have come to accept it as part of the activity.

Physical aggression is an interpersonal source of stress experienced by referees (Folkesson et al., 2002; Dorsch & Paskevich, 2007; Cuskelly & Hoye, 2013). According to this study, the more experienced referees were more concerned by fear of physical aggression compared to the less experienced referees. The competitive matches often officiated by this group take place in an emotionally charged environment (Dorsch & Paskevich, 2007), and have a huge social pressure (Gelade, 2015). Sometimes, spectators, coaches and players behave violently if they are dissatisfied with decisions made by the referee. The threat of physical harm causes anxiety among referees thus affecting their performance (Rainey & Hardy, 1999). These findings were not expected because more experienced referees are likely to be tolerated by players, coaches and fans. So, chances are higher that a less experienced referee would be physically harassed compared to a more experienced one (Dorsch & Paskevich, 2007).

Based on this study, the less experienced referees were more concerned about the release of allocations compared to their more experienced counterparts. This is an organizational related source of stress. Different rugby unions have different ways of communicating referee appointments, but release of allocations causes anxiety among inexperienced referees because they are eager to grow. The level of games one gets appointed to tells a lot about a referee's improvement or lack of it. Similarly, the anticipated type of the games and conditions of the venues hosting the matches aggravate the stress. More experienced referees may endure the same kind of stress especially when expecting appointments to decider games including knockouts and finals of competitions because appointment to that type of matches is an indication of a better rank. Nonetheless, it was anticipated that more experienced referees would be less stressed because, first, they are at a relatively good level in their career compared to less experienced referees, and secondly, the nature of matches they are likely to officiate have similar demands hence, they may not be bothered by what the allocations will look like.

The findings of present study revealed that there is a significant positive relationship between sources of stress and years of experience of referees. However, they did not support the claim that more experienced referees were bound to receive stress from fewer sources because of their familiarity with the officiating environment. It can therefore be deduced from these findings that Kenya Rugby relied upon the experience of referees as a factor while making appointments. The more experience one had, the more demanding matches they were likely to be appointed to.

The post-hoc results revealed that those with refereeing experience of less than 5 years had lower levels of stress compared to other categories. The Kenya Rugby Union envisions a career pathway that factors in the experience

of the referees because experience facilitates performance (Pizzera & Raab, 2012). According to the pathway, at the entry level, no huge demands are placed on the referees since the main activity at this stage is more of learning the basics through beginner roles and officiating low intensity matches involving developing players. Once the referees went through the learning process, sources of stress increase as the individuals progress in their careers resulting to more demands coming with the increased roles and expectations (Dorsch & Paskevich, 2007). However, the mean sources of stress among the referees with refereeing experience of 5 to 10 years, 11 to 20 years and over 20 years were not significantly different from each other. This study showed that Kenya Rugby had a shortage of experienced referees. Therefore, the union was compelled to fast-track less experienced referees to officiate competitive matches hence referees with over 5 years of experience were exposed to similar officiating conditions.

This study recommends that the Kenya Rugby Union should moderate the allocation of the competitive matches to the more experienced referees to prevent them from succumbing to negative consequences of stress. Similarly, fast-tracking of referees should be done cautiously to avoid losing referees too early in their careers if they are unable to cope. Additionally, the Kenya Rugby union should aim at identifying talent and recruiting referees through mass participation programmes targeting pre-teen and teen referees. This will introduce them early into the activity and allow them to gather the necessary experience early in their careers to create a large pool of experienced referees available for the very competitive matches.

CONCLUSION

Previous studies indicated that referees suffered stress from similar sources despite the sports disciplines they officiated (Mirjamali et al., 2012; Hill, Mathews & Senior, 2016) while findings from the present study found out that there was a positive relationship between years of experience and sources of stress. This study therefore concludes that referees from different sports codes will encounter more sources of stress as they become more experienced.

REFERENCES

- Anshel, M. H., Kang, M., & Jubenville, C. (2013). Sources of acute sport stress scale for sports officials: Rasch calibration. *Psychology of Sport and Exercise, 14*(3), 362–370. <https://doi.org/10.1016/j.psychsport.2012.12.003>
- Bahr, R., & Holme, I. (2003). Risk factors for sports injuries—A methodological approach. *British Journal of Sports Medicine, 37*(5), 384–392. <https://doi.org/10.1136/bjism.37.5.384>
- Chamari, K., Ahmaidi, S., Fabre, C., Massé-Biron, J., & Préfaut, C. (1995). Anaerobic and aerobic peak power output and the force-velocity relationship in endurance-trained athletes: Effects of aging. *European Journal of Applied Physiology and Occupational Physiology, 71*(2), 230–234. <https://doi.org/10.1007/BF00854983>
- Cuskelly, G. (2004). Volunteer retention in community sport organisations. *European Sport Management Quarterly, 4*(2), 59–76. <https://doi.org/10.1080/16184740408737469>
- Cuskelly, G., & Hoye, R. (2013). Sports officials' intention to continue. *Sport Management Review, 16*(4), 451–464. <https://doi.org/10.1016/j.smr.2013.01.003>
- Dell, C., Gervis, M., & Rhind, D. J. A. (2016). Factors influencing soccer referee's intentions to quit the game. *Soccer & Society, 17*(1), 109–119. <https://doi.org/10.1080/14660970.2014.919275>
- Diotaiuti, P., Falese, L., Mancone, S., & Purromuto, F. (2017). A structural Model of Self-efficacy in Handball Referees. *Frontiers in Psychology, 8*. <https://doi.org/10.3389/fpsyg.2017.00811>
- Dorsch, K. D., & Paskevich, D. M. (2007). Stressful experiences among six certification levels of ice hockey officials. *Psychology of Sport and Exercise, 8*(4), 585–593. <https://doi.org/10.1016/j.psychsport.2006.06.003>
- Dosseville, F., Laborde, S., & Raab, M. (2011). Contextual and Personal Motor Experience Effects in Judo Referees' Decisions. *The Sport Psychologist, 25*(1), 67–81. <https://doi.org/10.1123/tsp.25.1.67>
- Folkesson, P., Nyberg, C., Archer, T., & Norlander, T. (2002). Soccer referees' experience of threat and aggression: Effects of age, experience, and life orientation on outcome of coping strategy. *Aggressive Behavior, 28*(4), 317–327. <https://doi.org/10.1002/ab.90028>
- Gelade, G. A. (2015). National Culture and Home Advantage in Football. *Cross-Cultural Research, 49*(3), 281–296. <https://doi.org/10.1177/1069397114556055>
- Guillén, F., & Feltz, D. L. (2011). A Conceptual Model of Referee Efficacy. *Frontiers in Psychology, 2*. <https://doi.org/10.3389/fpsyg.2011.00025>
- Hill, D. M., Matthews, N., & Senior, R. (2016). The Psychological Characteristics of Performance Under Pressure in Professional Rugby Union Referees. *The Sport Psychologist, 30*(4), 376–387. <https://doi.org/10.1123/tsp.2015-0109>
- Hislop, M. D., Stokes, K. A., Williams, S., McKay, C. D., England, M. E., Kemp, S. P. T., & Trewartha, G. (2017). Reducing musculoskeletal injury and concussion risk in schoolboy rugby players with a pre-activity movement control exercise programme: A cluster randomised controlled trial. *British Journal of Sports Medicine, 51*(15), 1140–1146. <https://doi.org/10.1136/bjsports->
- Mirjamali, E., Ramzaninezhad, R., Rahmaninia, F., & REIHAMI, M. (2012). Study of sources of stress in international and national referees of soccer, volleyball, basketball and handball in Iran. *World Journal of Sport Sciences, Dubai, 6*(4), 347–354. doi: 10.5829/idosi.wjss.2012.6.4.1147
- Nazarudin, M. N., Abdullah, M. R., Parnabas, V., Abdullah, N. M., & Maliki, A. B. H. M. (2018). Investigating the relationship between Malaysian rugby sevens match officials physical fitness and performance. *Journal of Fundamental and Applied Sciences, 9*(2S), 824. <https://doi.org/10.4314/jfas.v9i2s.59>

- Pizzera, A., & Raab, M. (2012). Perceptual Judgments of Sports Officials are Influenced by their Motor and Visual Experience. *Journal of Applied Sport Psychology*, 24(1), 59–72. <https://doi.org/10.1080/10413200.2011.608412>
- Rainey, D. W., & Hardy, L. (1999). Sources of stress, burnout and intention to terminate among rugby union referees. *Journal of Sports Sciences*, 17(10), 797–806. <https://doi.org/10.1080/026404199365515>
- Stults-Kolehmainen, M. A., & Sinha, R. (2014). The Effects of Stress on Physical Activity and Exercise. *Sports Medicine (Auckland, N.Z.)*, 44(1), 81–121. <https://doi.org/10.1007/s40279-013-0090-5>
- Suarez-Arrones, L., Núñez, J., Munguía-Izquierdo, D., Portillo, J., & Mendez-Villanueva, A. (2013). Impact of Several Matches in a Day on Physical Performance in Rugby Sevens Referees. *International Journal of Sports Physiology and Performance*, 8(5), 496–501. <https://doi.org/10.1123/ijsp.8.5.496>
- Voight, M. (2009). Sources of stress and coping strategies of US soccer officials. *Stress and Health*, 25(1), 91–101. <https://doi.org/10.1002/smi.1231>