SOURCES OF STRESS AND COPING STRATEGIES OF ACTIVE RUGBY UNION REFEREES IN KENYA

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MAY, 2019
DECLARATION

“This thesis is my original work and has not been presented for a degree in any university.”

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DEDICATION

This work is dedicated to my family and to the almighty God.
ACKNOWLEDGEMENT

First and foremost I recognize the Almighty Father for enabling me with good health, robust energy and granting me as I worked on this thesis. Special regards goes to supervisors Dr. Nkatha and Dr. David Muigai because of their conviction and guidance, they gave me the will that I needed to pursue masters. This would not have been possible without their constant reminder of where I needed to be in future. Their support and guidance as my supervisors’ will forever be appreciated.
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ABBREVIATIONS AND ACRONYMS

KCB    Kenya Commercial Bank
KRRS   Kenya Rugby Referees Association
KRU    Kenya Rugby Union
RFUEA  Rugby Football Union of East Africa
RA     Rugby Africa
WR     World Rugby
OPERATIONAL DEFINITIONS OF TERMS

Burnout: It is a psychological process occasioned by a continuous exposure to the physical and emotional demands of officiating rugby leading to lack of motivation, feelings of incompetence and detachment.

Cope: It is the deliberate and successful efforts made by referees to deal with environmental and personal demands caused by officiating the game of rugby.

Coping strategies: These are intentional and planned activities that referees use to adequately manage specific physical, emotional or mental demands occasioned by their officiating roles.

Drop out: It refers to a situation whereby a referee discontinues participation in rugby officiating due to consequences of stress.

Efficacy: It is the belief and confidence that referees have in their own ability to execute roles related to officiating rugby.

Emotional regulation: It is a spontaneous application of strategies to arouse, control, alter or show emotion during an athletic performance.

Experienced referees: These are the referees who have officiated rugby matches for a period of over 20 years.

Game: It is a competition governed by rules where two teams play against each other by throwing, catching, running, kicking and grounding the ball with an objective of winning by scoring as many points as possible while respecting the set rules.
Kenya Rugby Union: It refers to the federation that is mandated to organise, govern and administer the game of rugby union in Kenya.

Match: It refers to a scheduled rugby competition where two teams play against each other within a limited period time so that the team that scores more points than the other is declared the winner.

Media: It is a group of professionals whose duty is to provide the public with information about the game of rugby through broadcasting, publishing and the internet.

Official: It refers to a person assigned to adjudicate a rugby match by observing players’ actions in order to make decisions that facilitate a safe and fair competition.

Officiate: It refers to the process of adjudicating a rugby match by observing players’ actions in relation to set competition rules in order to make decisions that will facilitate a safe and fair competition.

Elder referees: These are the participants who were at the age category of between 36 and 45 years old during this study.

Personality: It refers to a combination of a referee’s behavioural attributes that bring out their distinct character.

Players: These are athletes with a combination of physical, physiological and psychological abilities that allows them to participate in the game of rugby.

Referee: It refers to an athlete with physical, physiological and psychological abilities assigned to adjudicate a rugby match by observing players’
actions in order to make decisions on-field and in real-time to facilitate a safe and fair competition.

**Referee pathway**: It refers to a long-term approach based on age and experience used to maximise individual referees potential and involvement in officiating rugby union matches.

**Refereeing**: It is an activity involving physical, physiological and psychological processes to facilitate the adjudication of a rugby match on-field and in real-time.

**Rugby Union**: It is a contact team sport where players contest for the ball through kicking, running, passing, tackling and pushing.

**Self-esteem**: It refers to a psychological process driven by the desire to achieve satisfaction and optimism through an overall feeling of self-belief, confidence and pride that one has got ability to referee rugby matches.

**Stress**: It is a psychological reaction to the concerns experienced by referees due the demanding events surrounding their work environment.

**Stressor**: It refers to a physical or emotional threat caused by participation in the refereeing activities.

**4th and 5th Officials**: It refers to rugby match officials who are charged with managing the reserve players by facilitating the substitution and replacement protocols during a rugby match.
ABSTRACT

Rugby referees have for a long time volunteered to officiate matches in Kenya yet refereeing as an activity is stressful. It is an activity whereby the work environment is often unfriendly, performance is publicly scrutinized, and decisions elicit long debates. The purpose of this study was to investigate the sources of stress that affect active rugby union referees in Kenya and the subsequent coping strategies they adopt to persist in the activity. The study assessed the impact of age, gender and experience the active referees had on their respective sources of stress and coping strategies. Cross-sectional descriptive research design was adopted to assess the sources of stress and coping strategies of referees of different age, gender and experience. The respondents were active rugby union referees in Kenya whereby a target of 80 referees active during the 2016 / 2017 Kenya Rugby Union season were involved in the study. Self-administered questionnaires were used to collect data. Data was summarised using percentages, mean values and standard deviations. The null hypotheses were tested using One-Way Anova, independent t-test and the Pearson’s Coefficient of Correlation at 0.05 significance level. The results revealed that majority of the referees were aged 27-36 years (43.75%), male referees (85.75%) were more than female referees (16.25%) while referees with less than 5 years of experience were the majority (40%). Findings revealed that the referees encountered stress from different sources and coped actively with the stress. Intrapersonal and performance sources were responsible for causing the greatest amount of stress to the referees while organisational sources contributed the least. Fear of failure and accuracy with calls were the two most severe stressors that affected the referees while verbal abuse was the least severe. The referees used problem focused, emotion focused and avoidance coping mechanisms to fight stress. Problem focused was the most preferred mechanism while emotion focused was the least preferred. According to this study, there was no significant mean difference in sources of stress across different age categories (p=0.344) and sources of stress of male and female referees (p=0.344) but there was a significant mean difference in sources of stress across refereeing experience (p=0.009). This implies that neither age nor gender influenced sources of stress. However, referees’ experience influenced sources of stress. Therefore, the most experienced referees were the most stressed. On the other hand, findings showed that there was no significant mean difference in the rating of coping strategies by different age groups (p=0.348), there was no significant mean difference in the rating of stress coping strategies across sex groups (p=0.124) and there was no significant mean difference in the rating of stress coping strategies across different categories of refereeing experience (p=0.243). This implies that age, gender and experience did not influence choice of coping strategies. However, this study showed that there was a positive relationship between sources of stress and coping strategies (p=0.008). This implies that the more stress the referees came across, the more coping skills they developed. This study recommends that active rugby referees in Kenya should be subjected to continuous learning focused on stress and coping techniques in order to improve their coping skills and make them more effective. The study also recommends that the the Kenya Rugby Union should ensure that recruitment and career pathway for referees focus on talent identification since age, gender and experience do not lead to better coping skills which are essential in preventing burnout and early termination by referees.
CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Referees are a group of sports officials charged to interpret and enforce sport rules and principles on-field and in real-time (Berman, 2011). They are athletes with unique physical and psychological demands (Olusoga, Butt, Maynard, & Hays, 2010). Since turning professional about two decades ago, and with the recent inclusion of rugby sevens event as an Olympic sport, rugby has become very competitive hence the need for quality referees (Kraak, Malan & Berg, 2011), yet the refereeing environment is often charged and stressful (Bernal, Nix & Boatwright, 2012). The game of rugby has become faster and more technical while players and coaches are increasingly becoming cynical in attempts to influence referee decisions to the favour their teams. Consequently, there is more demand on the referees to produce satisfactory performances.

According to Cuskelly and Hoye, (2013), stress is the pressure that occurs when one has difficulties in adapting to a situation or event. Ilyas, Mehmet and Cihad (2012) defined stress as the consequence of the failure of an organism to respond appropriately to emotional or physical threats while Johansen and Haugen (2013) defines stress as a process whereby individuals interact with their environment while constantly evaluating the conditions they find themselves in. Therefore, stress in refereeing can be defined as a psychological reaction to the concerns experienced by referees due to the demanding events surrounding their work environment.
Findings from various studies indicate that referees experience acute stress during games (Kruger, Emekci, Strydom & Ellis, 2012). At the same time, researchers contend that refereeing as an activity places physical, emotional and mental demands on the referees (Baldwina, 2013). Referees are expected to make rapid and accurate decisions when officiating a game in an environment where chances of performing flawlessly are often slim (Dosseville, Rioult, & Laborde, 2013). Referees work under complex situations where they are expected to play numerous roles in the course of a match. It is a referee’s duty to observe and assess players’ actions and apply the laws of the game appropriately. In addition, referees are expected to control the game fairly to the satisfaction and enjoyment of all those involved. Therefore, they are under increasing pressure to manage contests. As a result, referees experience more stress as compared to other sports professions (Mirjamali, Ramzaninezhad, Rahmaninia & Reihami, 2012).

In addition to stress related to on-field performance, refereeing is a time-consuming activity that involves significant travel which keeps referees away from their jobs, family and friends. Similarly, organizational stressors such as fixtures, venues, appointments, rankings and demands by associations and unions affect referees’ performance (Kristiansen & Roberts, 2010).

Findings from previous studies have linked stress to age, gender and experience of the referees. Refereeing involves physical activity and exercise and athletes of different ages are affected differently by stress associated with exercise including risk of injury, underperformance, mental and mood disturbances (Stults-Kolehmainen & Sinha, 2014). Similarly, male and female referees are likely to be affected by different sources of stress when exposed to similar officiating conditions (Tamminen & Holt, 2010). At the same
time, findings show that both experienced and non-experienced referees suffer stress but from different sources (Ritchie, 2014).

Research has established that referees develop coping mechanisms to mitigate the stress caused by officiating. According to Surujlal and Nguyen (2011) coping is any strategy or response to stress that assists in preventing, avoiding or reducing stress. Al-Dubai, Al-Naggar, Alshagga and Rampal (2011) define coping strategies as specific attempts one makes to reduce stress. According to Giurgiu and Damian (2015), a coping strategy is a purposive set of activities executed to deal successfully with unpleasant situations, persons or circumstances. Therefore, coping can be defined as the intentional and planned activities that referees use to manage physical, emotional or mental demands occasioned by their officiating roles. The coping strategy employed depends on the stress being experienced (Kausar, 2010). Researchers have come up with three broad categories of coping techniques namely problem focused coping which means strategies used to regulate self or environment to curtail the stressor. Secondly, there is emotion focused coping which means strategies used to dominate emotional reactions to stressful situations. Lastly, avoidance coping which is the effort made to detach from stressful activities (Surujlal & Nguyen, 2011). For referees to persist in their task, they need to adopt coping strategies that will protect them from the negative outcomes of the omnipresent stress (Baldwina, 2013).

Research is replete with findings that sports officiating is extraordinarily demanding and a very stressful environment (Baldwina, 2013). According to Guillén and Feltz (2011) stress is an unavoidable part in the exercise of refereeing hence no amount of preparation can eliminate it. Mirjamali et al., (2012) held that the task of refereeing is laden with
stress and referees are generally expected to cope with it. In conclusion, active referees are victims of stress and stress predicts coping strategies (Kristiansen & Roberts, 2010). Nonetheless, earlier studies have come out with contradicting findings regarding the influence of the age, gender and experience of referees on both sources of stress and coping strategies of active referees. This study, therefore, sought to establish the sources of stress that affected active Kenyan rugby union referees and the subsequent coping strategies these referees used to manage the stress. The study also investigated the influence of age, gender and experience of referees had on the both the sources of stress and coping strategies.

1.2 Statement of the Study

Research shows that officiating rugby union is extraordinarily demanding and a very stressful environment (Guillén & Feltz, 2011) yet referees are an integral part of the game of rugby. Currently, the game is witnessing an unprecedented growth both locally and internationally, however, no Kenyan referee has had an opportunity to referee at any senior level tournament organised by either Rugby Africa or World Rugby (Rugby Africa (RA), 2017). As Kenyan rugby union referees position to benefit from the growing popularity (Muamba et al., 2013) and join their counterparts from other regions on the international scene, referee stress is undoubtedly bound to increase because players are becoming better conditioned physically, more skilful and cynical in an increasingly competitive environment. Yet, stress has far-reaching consequences on health and private lives of referees (Kruger et al., 2012). It can cause physical nervous breakdown, lower self-esteem and lead to poor on-field performance for both referees and players and (Guillén & Feltz, 2011). Further, prolonged stress leads to burnout which in turn causes
resignation of referees (Mirjamali et al., 2012). Consequently, the Kenya Rugby Union is at risk of suffering losses due to early termination of careers then face difficulties while recruiting new referees (Cuskelly & Hoye, 2013). Individual referees will suffer personal losses due to the investment they make while competitions may have to close due to shortage of referees. On the other hand, management of stress and coping builds self-esteem and increases confidence levels resulting to good performances that in turn lead to enjoyment by referees, players and spectators.

This study, therefore, sought to establish the sources responsible for stress among active rugby union referees in Kenya and the subsequent coping strategies they employed to remain active. At the same time, the study was designed to assess the impact of the active referees’ age, gender and experience on their respective sources of stress and coping strategies.

1.3 Purpose of the Study

The purpose of this study was to identify the sources of stress and coping strategies of active rugby union referees in Kenya

1.4 Objectives of the Study

The study was guided by the following objectives:

i. To establish the sources of stress of active rugby union referees in Kenya.

ii. To establish the strategies employed by active rugby referees to cope with officiating stressors.

iii. To examine whether there is significant mean difference in sources of stress and coping strategies across different age categories of active rugby referees.
iv. To examine whether there is significant mean difference in sources of stress and coping strategies in male and female rugby referees.

v. To examine whether there is significant mean difference in sources of stress and coping strategies across refereeing experience.

vi. To examine the relationship between sources of stress and coping strategies of active rugby referees.

1.5 Research Questions

The study was guided by the following research questions:

i. What were the sources of stress that affected active rugby referees in Kenya?

ii. What were the coping strategies employed by active rugby referees to combat stress?

iii. What was the influence of age on the active rugby referees’ source of stress and coping strategies.

iv. What was the influence of gender on the active rugby referees’ source of stress and coping strategies.

v. What was the influence of refereeing experience on the active rugby referees’ source of stress and coping strategies.

vii. What was the relationship between sources of stress and coping strategies of active rugby referees.

1.6 Research Hypotheses

The following null hypotheses guided the study:
H₀₁a: There is no significant mean difference in sources of stress across different age categories.

H₀₁b: There is no significant mean difference in the rating of coping strategies across different age categories.

H₀₂a: There is no significant mean difference in sources of stress of active male and female referees.

H₀₂b: There is no significant mean difference in the rating of stress coping strategies across gender groups.

H₀₃a: There is no significant mean difference in sources of stress across refereeing experience.

H₀₃b: There is no significant mean difference in the rating of stress coping strategies across refereeing experience.

H₀₄: There is no significant relationship between sources of stress and coping strategies.

1.7 Significance of the Study

It was hoped that this study will stimulate continuous assessment of stress among rugby referees in Kenya. The feedback received by the participants will be used to help them manage stress better as well as adopt better coping strategies for more satisfactory performances. The experiences of the referees will guide new referees on how to deal with stressors and how these stressors will impact their ability both on and off the field. The findings of this study will inform the Kenya Rugby Union (KRU) referees administrators on the sources of stress among rugby referees which will lead to development and application of appropriate referee management skills. Consequently, the results will be useful in recruitment and retention of the referees. It was also hoped that it
will open new areas of research in the area of refereeing in addition to contributing to the existing literature in Kenya on stress in officiating sports in general and rugby in particular.

1.8 Delimitations of the Study

i. Collection of data was delimited to referees officiating the 2016 / 2017 season.

ii. The study was delimited to male and female referees.

iii. Collection of data was delimited to the use of a questionnaire.

1.9 Limitations of the Study

There are other factors which may affect sources of stress and coping strategies of active rugby union referees in Kenya such as personality, level of education and rugby background. However, these were not covered by the current study. The study relied on participants’ self-reported data which may have contained bias. However, the participants were given appropriate guidelines on how to fill the questionnaire and they were given assurance of their confidentiality. Another limitation was that the findings of the study were going to be applicable to rugby referees in Kenya and may not reflect stress and coping behaviour of other populations.

1.10 Assumptions of the Study

This study assumed that rugby referees underwent stress occasioned by participation in officiating. Secondly, it assumed that referees adopted coping techniques to combat the stress. Lastly, it was assumed that participants were to respond accurately to the questionnaire.
1.11 Conceptual Framework

According to Carson and Kuipers (1998), there are three levels in the stress process. Figure 1.1 illustrates the refereeing environment which is laden with stress (Bernal et al., 2012). Consequently, referees who belong to different age, gender and experience levels in that stressful environment adopt coping strategies to fight the prevailing stressful conditions (Baldwina, 2013) leading to different outcomes being experienced by the referees.

As the game of rugby continues to grow and adopt a semi-professional approach across Kenya (KRU, 2017), expectations on the referees to perform impeccably are high yet findings from previous studies show that the refereeing environment is excessively stressful due to the particular influence referees have on the game (Nazarudin, Abdullah, Parnabas, Abdullah & Maliki, 2017). Therefore, referees are under pressure from different sources before, during and after performance. These sources include intrapersonal, interpersonal, performance, organisational and environmental.

Several studies have addressed intervening components that affect refereeing stress and coping strategies. Amount of stress present in the environment may be appraised differently by referees of different age, gender and experience depending on either situational or predispositional factors. According to Forbes, Edwards and Fleming (2015), female referees, compared to their male counterparts, appraised a verbal insult as a severe stressor because they judged it as an attack on their femininity and not just an insult. Conversely, being in the same environment, referees of different categories of age, gender and experience can appraise stress in a similar manner because it is from the same sources. Therefore, their demographic and situational differences will not count.
According to Stults-Kolehmainen and Sinha (2014), for example, stressors affecting referees of different ages differ according to the environment they are exposed to but not their age.

In order to remain active in the stress laden environment, referees adopt coping strategies that help manage the demands being experienced. Coping strategies depend on the stress being experienced hence referees may adopt problem focused, emotional focused or avoidance mechanisms. On one hand, studies show that coping depends on situational and demographic factors. According to Kim and Hong (2016) female referees officiating male dominant sports coped actively with performance related stress to fight gender stereotypes associated with that kind of an environment. On the other hand, authors have argued that coping is a spontaneous reaction that is not dependent on age, gender or experience. Rather, the stressed individual will select a coping strategy that adequately alleviates the stress present regardless of age, gender or experience (Baldwina, 2013).

According to Ströbel, Maier and Woratschek (2018), for example, participation in sports is a time-consuming exercise that keeps athletes away from family and friends. Therefore, organisational support as a coping mechanism is necessary to athletes across different categories of age, gender and experience because it provides the much need solace.

Ability to cope promotes well being and generates satisfaction. On the other hand, referees who are unable to cope can succumb to poor health, burnout and dropout. Age, gender and experience determine neither ability nor inability to cope. Rather, the ability or inability to cope is determined by the effectiveness of the coping mechanisms chosen. However, certain situational and dispositional factors related to age, gender and
experience will determine the selection of the coping mechanisms which will end up being effective or ineffective. Eventually, it is the level of effectiveness of the strategy picked that will determine if the referee is able or unable to cope. According to Sagar, Busch and Jowett (2010) for example, adolescent athletes were found to select ineffective avoidance coping mechanisms of withdrawal to deal with fear of failure during performance hence succumbing to feelings of burnout. Therefore, in this case, inability to cope can be traced back to age of the athletes. However, the referee who is unable to cope can change and use an effective or more effective mechanism then end up being able to cope.
Figure 1.1: Levels in the Stress Process [Source: Adapted from Carson and Kuipers (1998).]
CHAPTER TWO: LITERATURE REVIEW

2.1 Source of Stress among Rugby Union Referees

Numerous studies have dealt with the concept of stress and coping strategies as experienced by referees in sports officiating and found out that stress and coping strategies are similar across different sports officiating (Guillén & Feltz, 2011). A survey using 42 match officials in South Africa found out that referees’ encounter stress from both interpersonal and intrapersonal sources (Kruger et al., 2012). Intrapersonal sources of stress include fear of failure, personality and role conflict. Fear of failure is the desire to avoid errors in order to succeed and it is prevalent in evaluative situations such as sports officiating (Sagar et al., 2010). Although role conflict has been cited in several studies as a source of stress, Dell, Gervis and Rhind (2016) ruled out this aspect.

On the other hand, they identified competition between the referees themselves as part of interpersonal sources of stress. Indeed, Wanjiru (2014) opined that pressure to be ranked top is prevalent in individual sports disciplines such as refereeing. Previous research has identified conflict with other parties involved in the game such as players, coaches and spectators as another interpersonal source of stress (Baldwina, 2013). Using unstructured qualitative interviews conducted on 12 referees in England, Dell et al. (2016) established that referees were vulnerable to both verbal and physical aggression due to the sensitive role they played in adjudicating sports contests. Hence, referees are exposed to unjustified physical and psychological intimidation detrimental to their well-being. Nevertheless, Forbes et al. (2015) established that referees viewed verbal abuse as an unavoidable part of the refereeing hence not so stressful.
Literature is replete with findings showing stressful events related to referee performance (Thelwell, Weston, & Greenlees, 2010). Referees make critical decisions under time constraint hence they are concerned by fear of failure and poor performance. According to Baldwina (2013), fatigue is a common performance related stress among referees. Referees suffer mental and physical fatigue while officiating a match which is occasioned by several factors including the duration of a match, teams’ tactical approach and the physical conditioning of the players. Indeed, Suarez-Arrones, Núñez, Munguía-Izquierdo, Portillo and Mendez-Villanueva (2013) found out that, due to the fast nature of sevens rugby, refereeing a sevens tournament places more physical and physiological demands on referees as compared to other rugby codes. A referee is never replaced unless under special circumstances such as after sustaining an injury, which further aggravates stress related to fatigue, yet accumulated fatigue can lead to poor performance (Nazarudin et al., 2017). However, literature on how technical aspects such as law and game knowledge contribute to performance stress, remains scarce (Baldwin, 2008).

On the other hand, researchers have identified performance related stressors connected to the charged surroundings of refereeing a game. While exploring the situation criticality on officials’ stress levels, Ritchie (2014) found out that the level, intensity, difficulty and expectations of a match were the factors responsible for causing performance related stress to referees. In a related study, Ritchie, Basevitch, Rodenberg and Tenenbaum (2017) argued that referees’ stress increase when pressure in a match increases due to score differential and time remaining in a game. Nevill, Hemingway, Greaves, Dallaway, and Devonport (2017) assessed the influence of crowd pressure on decisions made by referees on-field and found out that players’ and coaches’ vocalisations as well as crowd
pressure interfered with referees’ decision-making process hence increasing referees’ pressure to perform.

Previous studies have also established that unusual weather circumstances such as extreme temperatures and wet conditions were often a cause of stress to referees. Such conditions have an impact on both physical and psychological performance of referees (Gaoua, Oliveira & Hunter 2017).

Incidentally, authors have come up with conflicting findings in relation to severity of performance related stress experienced by referees. On one hand, Mirjamali et al., (2012) held that referees are rather worried by the technical aspects of performance such as positioning and physical fitness while on the other hand Baldwina (2013) pointed out that fear of making an error is a very stressful performance related event.

Referees have a unique role of adjudicating competitions usually under pressurized and emotional conditions. Consequently, there is constant and uncontrolled assessment by the media, players, coaches and spectators (Forbes et al., 2015). This subjective evaluation contributes greatly to post-match stress since referees will obviously receive it after their performance (Samuel, 2015). Referees are hence vulnerable to mental threats leading to loneliness, low self-confidence and low self-worth (Dell et al., 2016). Findings show that unjustified criticism has contributed greatly to the low numbers of sports officials worldwide prompting federations to develop codes of conduct to uphold the respect of match officials (WR, 2019). However, there is a dearth of literature showing the impact of such initiatives in ameliorating the work environment of referees (Webb, Cleland & O’Gorman, 2017).
Additionally, numerous studies categorised time spent in refereeing and the travelling involved as stressful events. Using a semi-structured method to interview six former Korean referees, Kim and Hong (2016) found out that work – family conflict was a severe stressful factor that would lead to quitting refereeing. Nevertheless, this study is at odds with an earlier study by Muamba et al. (2013), which investigated motivation of Kenyan rugby match officials’ and found out that travelling extrinsically motivated the officials to continue officiating.

Organizational factors responsible for causing stress to referees include fixtures and venues (Kristiansen & Roberts, 2010). In a review conducted by Bernal et al., (2012), appointments, evaluation, rankings and promotions of referees were found to cause anxiety among referees. According to the findings, referees confessed that evaluation of performance is a very stressful event. Congruent with these findings, Mirjamali et al. (2012) argued that performance assessment generates stress especially if the referee had a poor performance. In relation to venues, referees are more stressed when appointed to officiate in some venues than others perhaps due to several factors such as the behaviour of the home fans, distance and weather (Myers & Balmer, 2012). Incidentally, Lex, Pizzera, Kurtes and Schack. (2015) established that the home crowd support influenced referees’ decisions to favour their team. These findings were supported by a later study involving first division soccer referees in Spain which established that referees suffered from social pressure generated by the presence of the home team crowd. Nonetheless, literature on other aspects related to crowd behaviour that would cause referee pressure other than crowd noise, is scarce.
Research shows that an organisation charged with management of referees can either contribute or alleviate referees stress. Organisations become a source of stress when they fail to provide clear career development pathways to referees. Similarly, stress is aggravated if referees lack organisational support to deal with work related demands (Dell et al., 2016). According to Kim and Hong (2016) a lack of administrative support left referees exposed to the already hostile environment. Consequently, referees exited the profession.

2.1.1 Sources of Stress and Age of Rugby Union Referees

Stress in refereeing is dependent on age. Hoar et al. (2010) held that developmental changes linked to age are accompanied by physiological and psychological changes which result to different sources of stress. Refereeing involves physical activity and exercise where athletes of different ages are affected differently by stress associated with exercise including risk of injury, underperformance, mental and mood disturbances (Stults-Kolehmainen & Sinha, 2014). Existing literature shows that both young and old referees suffer intrapersonal stress. According to Mwisukha, Rintaugu and Mundia (2011) young athletes in Kenya were stressed by intrapersonal stressors including the pressure to balance between athletics, studies and social lives. A later study by Muamba et al. (2013) supported these findings arguing that refereeing rugby in Kenya is a voluntary part-time activity hence young referees involved in the activity are still involved in their other social and academic aspects of life. Similarly, elder referees suffer intrapersonal stress associated to role conflicts occasioned by new commitments related to professional and family engagements as they advance in age (Rintaugu & Mwisukha,
Intrapersonal stress among elder referees has also been attributed to the fear of not meeting long term career goals due to advancement in age (Ronkainen & Ryba, 2017). Being a physical activity, refereeing performance is dependent on age, yet referees are motivated by love of the game to start and continue officiating matches (Muamba et al., 2013). Therefore, advancement in age is perceived as a threat to the accomplishment of personally important goals. Literature is however not categorical whether referees who excel experience similar threats when faced with retirement due to age.

Interpersonal stress linked to risk of injury is greater with younger referees as compared to their elder counterparts. Hoar et al. (2010) examined 524 adolescent athletes from Western Canada and found out that young athletes were mostly affected by interpersonal sources of stress related to conflict with other parties including players, coaches and fans. Indeed, Forbes et al. (2015) opine that verbal aggression towards a teenager referee is more severe compared to similar aggression towards an elder referee perhaps due to the emotional maturity of the elder referees.

Similarly, research contains literature showing that young referees are more likely to suffer performance related stress compared to elder referees Diotaiuti, Falese, Mancone, and Purromuto (2017) argued that young referees are susceptible to performance related stress linked to pressure due to the importance and the intensity of a match. Young referees were also found to be stressed by technical performance including law interpretation and positioning on the field. Nonetheless, existing literature does not adequately address which physical and psychological components predispose young referees to intrapersonal, interpersonal and performance sources of stress (Nazarudin et al., 2017).
On the other hand, elder athletes suffer performance stress related to decline in performance due to age. Consequently, older referees encounter challenges in keeping up with the physical demands of the game of rugby where referees’ duties involve a lot of aerobic and anaerobic movement (Slack et al., 2014). Indeed, a study conducted in Malaysia involving 132 rugby sevens match officials indicated that periodized fitness and conditioning of rugby referees was indispensable in officiating the modern game. Although no scientific approach can be attributed to retirement age of referees, literature is laden with findings that physical performance decreases with increase in age (Nazarudin et al., 2017).

Consequently, the Kenya Rugby Union requires referees to retire before 45 years of age (KRU, 2019). Decline in performance due to age, therefore, becomes more stressful when referees are forced to retire involuntarily. The stress progresses from intrapersonal to environmental when other stakeholders such as players and coaches point out the referees’ declining performance. Additionally, increase in age contributes to a higher risk of injury and illnesses such as hearing difficulties occasioned by the long exposure to the noisy environment associated with refereeing (Ronkainen & Ryba, 2017).

2.1.2 Sources of Stress and Gender of Rugby Union Referees

In Kenya, rugby is a still a male dominated sport currently with 3975 registered adult male players against 220 registered adult female players (KRU, 2019). Therefore, active female rugby referees end up officiating more male competitions than female ones. Officiating in a male dominated setting subjects’ female referees to discrimination and harassment (Kim & Hong, 2016). Consequently, such female referees are affected by environmental, organisational and performance sources of stress related to gender
stereotypes and masculine bias during recruitment, allocation of matches and assessment of performance (Njororai, 2015).

In a study involving four female soccer referees, Forbes et al. (2015), established that women who officiated male dominated sports were under increased performance pressure because, being female, their performance is more scrutinised by players, coaches and the media. Hence, they use good performance to overcome attitudes and stereotypes. Referee managers adopt similar evaluation tools for both male and female referees therefore the subjective approach used against female referees is unwarranted. However, the environment remains prejudicial (Kim & Hong, 2016). To date, for example, no female referee has ever officiated a final of a premier Kenyan male competition neither in sevens nor fifteens rugby despite the involvement of female referees in such competitions (KRU, 2019). Yet, officiating sports provides an opportunity to women to express themselves and gain satisfaction (Forbes et al., 2015). Verbal aggression is a common stressful event in sports officiating suffered by both female and male referees (Cuskelly & Hoye, 2013). However, research has established that women suffer abuse that is more personal and discriminatory in nature (Forbes et al., 2015).

According to Tamminen and Holt (2010) sources of stress differ according to gender due to the different societal roles and expectations between men and women. Women are perceived to be affected more by intrapersonal stress due to the particular social roles they must balance with participation in sports. The active career phase of a female referee coincides with other important social and personal responsibilities of the athlete such as child bearing and upbringing (Njororai, 2015). Indeed, using a semi-structured approach,
a study by Kim and Hong (2016), involving six former female referees in South Korea, found out that frequent travel, pregnancy and child care were stressful work – family events that affected female referees. These sources of stress become more severe when the referees had to forgo refereeing opportunities to meet personal and social needs (Njororai, 2015; Perreau-Niel & Erard, 2015). On the other hand, male referees are mostly affected by concentration disruptions during performance. However, according to Buser, Dreber and Mollerstrom (2017) it is still unclear whether stress differences between male and female referees are due to dispositional or situational factors.

Mirjamali et al. (2012) found out that male referees were more stressed by interpersonal factors more than female referees. In concordance with these findings, Wanjiru (2014) argued that Kenyan male athletes, as compared to their female counterparts, are likely to suffer more interpersonal stress related to peer conflict due to their stronger desire to perform better than others in a competitive environment.

2.1.3 Sources of Stress and Experience of Rugby Union Referees

Referees of any experience level encounter stress (Ritchie, 2014). Both experienced and non-experienced referees suffer performance related stress from different or similar sources but with varying degrees of severity. Experienced referees encounter performance related stress because they are likely to be appointed to more demanding games while at the same time being expected to set a good example to less experienced referees. Utilizing the Stress Appraisal, Slack et al. (2014) conducted a study involving nine match officials to assess the effect of situation criticality on official’s stress and found out that performance related events responsible for causing stress to experienced referees are criticality of a match, score differential and fear of failure. These events are
often associated with crucial games such as finals and high-profile league matches with the potential of determining the outcome of a tournament or a competition.

On the other hand, less experienced referees are more susceptible to performance related stress linked to crowd, coach and player influence while making decisions. Newer referees are a target of coach and player vocalisations with a view who aim to pressurize them to make calls in their favour (Lex et al., 2015). In addition, due to their relatively low experience, they have weak self-esteem which contributes to more cognitive anxiety as compared to experienced referees who have a much stronger self-esteem. Cognitive anxiety affects decision-making which increases performance concerns among less experienced referees (Baldwin, 2008)

Similarly, compared to experienced referees, referees with low experience encounter more stress from environmental sources including uncontrolled feedback from interested parties such as coaches, players and spectators due to their unfamiliarity with the different aspects of the officiating environment (Diotaiuti et al., 2017).

Different studies have come up with different organisational and environmental sources of stress that affect referees. Referees with low experience suffer more stress related to lack of adequate support and promotion. While investigating athletes’ turnover intentions in competitive sports, (Ströbel et al., 2018) found out that new athletes encounter stress originating from the demands of settling in the new environment and if organisational support is lacking then they may not cope. On the other hand, experienced referees are affected by additional organisational roles such as mentorship and coaching which they must balance against refereeing duties. Similarly, these increased organisational roles and
extra responsibilities relating to family and professional matters subject experienced referees to both intrapersonal and interpersonal stress due to role conflicts and the desire to maintain standards (Baldwina, 2013). However, in discordance with these findings, Ströbel et al. (2018) argue that experienced referees suffer less stress related to work – family conflicts as compared to the less experienced ones.

2.2 Stress Coping Strategies among Rugby Union Referees

Coping is a transitional process that depends on situational and personal factors. Therefore, subjected to the stress of the officiating environment, referees make attempts to manage the stress. Effective coping reduces stress, improves performance and reduces the rate of dropping out (Cuskelley & Hoye, 2013). Such attempts are based on the different strategies of problem-focused, emotion-focused and avoidance coping styles (Ilyas et al. 2012). Literature is laden with specific forms of coping mechanisms employed by referees to manage stress. Problem-focused coping refers to strategies used to regulate self or environment in order to reduce, overcome, prevent or minimise the effects of the stressful event. Good preparation and planning are key elements that help referees combat stress associated to officiating matches. Planning should consider the physiological, psychological and physical components of performance. Indeed, using 132 respondents to investigate the relationship between rugby sevens match official’s physical fitness to their performance, Nazarudin et al. (2017) posited that owing to the current demands of officiating the game of rugby, referees were preparing more like players in all aspects of sports performance. Referees who are well prepared feel confident and have a high self-esteem hence alleviating the demands of officiating (Samuel, 2015).
Additionally, Bernal et al., (2012) found out that referees use incorrect decisions and poor performance as opportunities to learn therefore coping with stress related to fear of making errors. On the other hand, organizational support through assessments and feedback equally reduces stress among referees (Anshel et al., 2012) An organization is key in providing support to ensure referees do not succumb to stress emanating from their working conditions (Webb et al., 2017).

Emotion-focused coping style is a process where an individual confronts a stressful event through an emotional engagement. Socializing with peers, coaches and players post-match is a strategy used by referees to arrest the negative emotions surrounding their performance (Baldwina, 2013). Similarly, self-esteem and self-efficacy (Mohamad Nizam Nazarudin, Fauzee, & Din, 2009) as well as intrinsic motivation (Dosseville et al., 2013) assist referees fight stress related to the role of officiating sports contests. Indeed, volunteer rugby match officials in Kenya were found to be driven by intrinsic motivation such as love for the game and sustaining personal fitness to continue officiating in today’s sports climate (Muamba et al., 2013). Secondly, referees demonstrate high achievement motivation which enables them cope easily with stress (Slack, Maynard, Butt, & Olusoga, 2013) Additionally, emotion focused strategies of seeking social support, accepting responsibility and positive reappraisal help referees cope with stress related to controversial calls and judgemental errors (Ilyas et al., 2012).

According to Anshel, Kang and Jubenville (2013), avoidance coping skills of discounting and psychological distancing are an effective defence against stress caused by the charged refereeing environment. Verbal aggression and unjustified criticism are
considered as inevitable part of the game by referees. Consequently, they do not make any effort to solve the problem. Secondly, since the referees are engaged in a continuous match, avoidance coping becomes critical as the referee needs to detach quickly from the stressful events and focus on the task at hand in order to be successful. Baldwina (2013) used a mixture of qualitative and quantitative research designs to study pre and post-match stress among 143 match officials in Australia and found out that referees employed avoidance coping strategies of self-distraction. The referees used activities such as listening to music, reading a book or watching a movie to lower stress associated to before and after match.

Authors have made divergent conclusions on the topic of coping strategies. On one hand, authors postulate that avoidance coping techniques of discounting which means reducing the importance or changing the interpretation of a stressful event, and psychological distancing which means understanding the reason of a stressful event or feeling detached from the source of stressor, are effective in coping with stress in sports officiating (Anshel et al., 2013). On the other hand, using a sample of 125 Turkish Basketball referees, Anshel et al. (2014) found out that given their role of adjudicating a contest fairly and because they must account for the decisions they make while doing so, referees use more of problem-focused and emotion-focused coping styles than avoidance coping style.

2.2.1 Stress Coping Strategies and Age of Rugby Union Referees

Several studies indicate that elder athletes cope better with stress related to participation in sports (Ströbel et al., 2018) while findings from other related studies show that elder athletes are not necessarily better copers, rather, athletes of different ages use different
strategies to manage stress (Forbes et al., 2015). Using a sample 210 athletes to assess the sources of stress and coping strategies utilized by university athletes in Kenya, Rintaugu, Litaba, Muema, and Monyeki (2014) found out that the choice of certain coping techniques was dependent on the age of the athlete. The findings are in sharp contrast with the results of a study by Stults-Kolehmainen and Sinha (2014) who did not find any significant relationship between a person’s response to stress and their age. The latter study is complemented by another study by Mohamad et al., (2014) who, while examining rugby sevens referees in Malaysia, found out that coping with stress is not determined by age but an individual’s ability to apply the relevant coping skills.

Notwithstanding the discordances above, research has identified inconsistencies regarding the preferences of different age groups. According to Al-Dubai et al. (2011), elder people used more of problem focused coping strategies than younger people. The results mirror the findings by Monteiro et al. (2014) who found out that progression in age envisions use of both problem and emotion focused coping strategies. The findings of the two studies were however at odds with the study by Kristiansen and Roberts (2010) who, upon examining the competitive and organisational stress and coping strategies of 29 Norwegian Youth Olympic athletes aged 14-17 years, concluded that young athletes employ both problem-focused and avoidance coping mechanisms such as coaches’ advice and maintaining concentration as compared to elder referees who employ more of emotion focused strategies.

Nevertheless, existing literature identifies avoidance coping strategies as a preference for both young and elder athletes. Sagar et al., (2010) interviewed four adolescent football players and found out that adolescents predominantly used avoidance coping
mechanisms. Similarly, Mwisukha et al. (2011) found out that young Kenyan athletes are more likely to use maladaptive avoidance coping strategies such as drinking. On the other hand, Rintaugu and Mwisukha (2012) examined the coping strategies of retired soccer players in Kenya using a sample of 18 former players and found out that elder athletes chose to use the avoidance coping mechanism of retirement when encountered with stress related to age including role conflict, injuries and declining performance. Similarly, elder referees employ the avoidance technique of disengagement to fight stress associated with decline in performance when they voluntarily withdraw from the activity but take up other officiating roles that are less involving including referee coaching and mentorship. Other referees use the maladaptive avoidance technique of denial when they continue refereeing despite decline in performance due to age (Ronkainen & Ryba, 2017).

2.2.2 Stress Coping Strategies and Gender of Rugby Referees

Contradicting findings relating to gender differences in coping with stress have previously emerged from different authors. While some studies established no gender differences, other studies found out that gender influenced coping strategies adopted by an individual (Tamminen & Holt, 2010). According to Rintaugu et al. (2014), male and female athletes appraised stress differently hence the preferred coping style is mediated by gender. Hoar et al. (2010) used a sample of 524 adolescent athletes from Western Canada to determine the coping style preferred to manage a self-selected interpersonal source of stress in sports. The outcome of their study showed that male and female athletes coped differently since each party tries to balance between their social and athletic roles. These findings were supported by another study by Cherkil, Gardens and Soman (2013) that showed that males and females coped differently when subjected to
different sources of stress. However, there is a dearth of evidence in existing literature whether the differences are due to biological factors.

Reviewed literature attributes the use of problem focused coping to women more than men. Studies by Tamminen and Holt, 2010; Al-Dubai et al., (2011) and Rintaugu et al., (2014) all established that female athletes use problem focused coping while male athletes used avoidance mechanisms to alleviate stress. This is associated with the cultural and structural challenges linked to sports being a male dominated arena which inclines women towards using problem focused coping (Njororai Simiyu, 2015) to face off gender perceptions. Women also use avoidance mechanisms of ignoring and humour to cope with verbal abuse related to gender stereotypes instead of challenging the aggressors (Forbes et al., 2015).

Nonetheless, diverting conclusions have emerged from related research. In a study involving 64 males and 64 females in Botswana, women were found to employ avoidance coping strategies of denial and wishful thinking while men used more of problem-focused coping (Monteiro et al., 2014). Additionally, Cherkil et al. (2013) stated that females used maladaptive coping strategies linked to avoidance management styles more than males, although Kenyan female athletes were found to be less likely, as compared to their male counterparts, to use drinking as a coping technique (Mwisukha et al., 2011).

Due to the emotional adjustments of women, they use more adaptative emotion focused coping mechanisms of seeking social support for comfort to cope with personal sources of stress (Pierre, 2013) while males use avoidance coping strategy of withdrawal when faced with similar stress (Tamminen & Holt, 2010). Congruent with these findings, Giurgiu and Damian, (2015) using a sample of 136 students compared stress and coping strategies of athlete and non-athlete male and female students and found out that women
preferred emotion-focused strategies while men preferred problem-focused strategies. Female athletes were more determined to seek emotional support through talking and sharing personal struggles with peers. Indeed, findings from a study conducted in Korea using six retired female soccer referees showed that lack of a social support system caused women to terminate early their refereeing careers. This study reported that women referees in male dominated sports should be provided with solace from peer community services (Kim & Hong, 2016).

2.2.3 Stress Coping Strategies and Experience of Rugby Union Referees

Discrepant conclusions have been noted in existing literature. On one hand, findings show that experience creates and refines a reservoir of coping skills due to constant exposure to stressful environment (Baldwina, 2013). Cuskelly and Hoye (2013) opined that referees with the least officiating experience have difficulties coping with stress and are more likely to drop out. Similarly, utilising a sample of 248 Italian handball referees, Diotaiuti et al. (2017) established that less experienced referees are usually victims of burnout which is occasioned by failure to cope with prolonged stress. Existing literature show that experience is effective in arresting stress associated with decision-making and technical performance because experience develops self-confidence, mastery of rules and good match management skills (Guillén & Feltz, 2011). Indeed, experienced referees can control movements and positioning on the pitch hence reducing stress related to physical demands of officiating a match. In fact, Diotaiuti et al., (2017) argued that experience reinforces self-efficacy which is crucial in combating stress related to refereeing. Similarly, experience leads to more use of avoidance coping strategies of discounting and psychological distancing since experienced referees learn over time that stress associated
to refereeing cannot be eliminated. Additionally, experienced referees cope easily with stress related to role conflicts. Indeed, using both qualitative and quantitative research designs, Ströbel et al. (2018) studied the behavior of athletes in a professional sporting environment and found out that experienced athletes coped better with stress related to work-family conflicts compared to athletes less experience because their families get used to the work schedule.

On the other hand, authors have argued that experience does not necessarily improve coping skills since stressors vary in different refereeing environments. Researchers maintain that the physical demands of officiating a match are dependent on the intensity of the match which vary from match to match hence no referee, despite the level of experience, can claim to have mastered all the situations (Ritchie, 2014). Experienced referees were, for instance, found to have difficulties to cope with stress associated to injuries. Suffering an injury is a very stressful situation to an active athlete whereas return to play following an injury involves different phases each carrying a fair share of demands on the athlete. Yet, injuries are accidental hence experience may not be relied upon to arrest the stress related to injuries (Evans, Wadey, Hanton and Mitchell (2012). Similarly, no level of experience can adequately deal with stress related to declining levels of fitness and performance brought about by advancement in age (Baldwina, 2013).

Researchers rather opined that the level of experience influence selection of coping strategies. Nazarudin et al. (2014) interviewed 132 referees who had officiated rugby sevens for ten years in Malaysia and found that referees of different levels of experience
coped differently. Organizational support is an obvious choice for referees of little experience. Referees relay on the organization to offer mentorship, coaching and social support in a relatively new but charged environment. Indeed, in their study, Ströbel et al. (2018) postulated that organizational support is key in motivating new athletes in order to reduce turnover intentions.

2.3 Summary of Literature Review

Given the role they play in overseeing sports contests, referees carry out their activities in stressful surroundings. Stress is a naturally occurring phenomenon generated by the environment that a referee is subjected to. Consequently, referees will only remain active depending on their ability to cope with the different sources of stress (Diotaiuti et al., 2017).

Literature reviewed demonstrates that there exist different sources of stress linked to refereeing. Each of these sources can be broken down to a variety of stressors. These stressors affect referees at the same time depending on circumstances. A referee suffering role conflicts due to family and work commitments as stressors associated to intrapersonal sources of stress, for example, may still suffer stress associated to performance concerns such as making a wrong judgement (Baldwina, 2013).

Likewise, there exists three broad categories of mechanisms used by the referees to alleviate the stress associated to officiating. Each of these categories consists of strategies that individual referees adopt when they encounter stress. A referee requires to have the ability to summon a number of these strategies to fight stress in a given situation. Literature reviewed shows that the kind and the amount of stress a referee suffers will
therefore be dependent on the circumstances that that referee comes across. While in these circumstances, stress affects different referees differently. It is also evident in research that referees in either similar or different contexts employ different coping strategies (Rintaugu et al., 2014).

When subjected to different situations, age, gender and experience of referees are factors that influence sources of stress encountered by referee. Similarly, these factors influence the choice of coping strategies such referees adopt to combat the stress (Dias, Cruz, & Fonseca, 2010).

In Kenya, rugby refereeing is a voluntary part-time activity (Muamba et al., 2013) yet, clubs and the Kenya Rugby Union are gradually engaging players on semi-professional contracts (KRU, 2019). Besides, players have made significant progress as compared to referees in the international arena with the Kenya sevens consistent participation at the World Rugby Sevens Series, World Cup Sevens and now the Olympic Games (WR, 2019). Additionally, the game is witnessing unprecedented growth countrywide hence there is more demand for referees to officiate matches. Kenyans referees are therefore under increased pressure to deliver fair contests and protect the image of the sport. Nonetheless, the referees are motivated (Muamba et al., 2013) and are not only expecting to contribute to the development of the game locally but also officiate rugby at the global stage. Understanding the psychological challenges of their work environment is therefore key to uphold the values of the game and ensure that referees, players, coaches and stakeholders achieve satisfaction. This study, therefore, sought to examine the sources of stress and the coping strategies of active Kenyan rugby union referees as influenced by age, gender and experience of the referees.
CHAPTER THREE: METHODOLOGY

3.1 Research Design
The present study used the cross-sectional analytical research design which is a type of an observational study used to gather information from a population at a specific point in time. It allows the researcher to record information then draw conclusions about the subjects without manipulating the study environment. Therefore, the design was appropriate for this study because it was used to establish and describe the dependent variables of sources of stress and coping mechanisms of active Kenyan rugby union referees as influenced by the independent variables of age, gender and experience of the referees (Gratton & Jones, 2010).

3.2 Measurement of Variables
The independent variables in this study were gender, age and officiating experience of the referees while the dependent variables were stress and coping strategies of the referees. Using a two-part self-report scale, both the sources of stress and the coping strategies were measured on an ordinal scale to establish if they were greater or lesser depending on the different categories of age, gender and experience (Appendix C). Part A contained 31 items measuring sources of stress where referees responded in a scale of 1 (Not at all) to 5 (always). A high stress scale showed that the item was stressful. Part B contained 8 items each accompanied by a set of coping strategies where referees responded on a scale of 1 (Not at all) to 5 (always). A high scale meant that that strategy was most likely going to be employed by the referees when stressed.
3.3 Location of Study

The study was conducted in all the nine Kenya Rugby Union Districts. According to KRU (2016) all 47 counties were zoned into nine districts which had no relationship with the existing national nor county governments administration structures. Rather, these were zones designed by KRU in order to facilitate better management of the game. Each district is headed by a Regional Development Officer (Appendix D). Active rugby union referees were therefore spread across the nine districts in varying numbers. A calendar of fixtures within the districts was sought from the Regional Development Officer. The researcher then planned to visit venues hosting tournaments and matches where the referees were officiating.

3.4 Target Population

The target population of this study included all male and female rugby referees who were registered with the Kenya Rugby Referees Society (KRRS) and were being appointed to officiate matches during the 2016/2017 season. According to KRRS (2016), there were 80 referees actively officiating rugby matches across the country. Therefore, this study conducted a census by involving all the active referees. A census is a method whereby the entire population is studied. The rugby season in Kenya starts in October and then runs through to May of the following year (KRU, 2016).

3.4.1 Exclusion criteria

Excluded from the sample of the present study were referees above 45 years since, according to KRRS referee pathway, a referee can only remain active up to 45 years of age (KRRS, 2016). Also excluded from the sample was the third category of gender, intersex because of the ambiguity of the phenomenon.
3.4.2 Inclusion Criteria

Included in the sample of the present study were referees above 18 years of age since a person above 18 years can make an informed decision to participate. KRU implemented the “I Also Play Referee programme” which aims to motivate children aged 6-13 years to consider rugby refereeing as a career (KRU, 2016). The programme has produced young referees hence the inclusion of referees aged 18 years. According to KRRS (2016) a total of 80 referees aged between 18 and 45 years old were registered and were being appointed to officiate matches.

3.5 Sampling Technique and Sample size

The study sampled registered and active rugby referees in Kenya during the 2016/2017 rugby season. The study used a purposive census method. A census is a data collection method where each member of a population is studied. This method was appropriate for this study because the number of active referees officiating during the 2016/2017 rugby season was relatively small (N=80) (KRRS, 2016).

3.6 Research Instrument

The study used self-administered questionnaires to collect data from the referees (Appendix C). It had three sections. Section I was a survey form used to collect demographic information about the participants. Section II had two parts. Part A was a modified version of Sources of Officiating Stress Questionnaire (SOSQ) (Voight, 2009) used to measure sources of stress while Part B was a modified version of the COPE inventory (Crocker & Graham, 1995) used to measure coping strategies.
3.7 Pre-testing of Research Instrument

3.7.1 Validity of the Research Instrument

The questionnaire was pre-tested to ensure that it had the ability to provide the required data. This was done using 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. This was an equivalent of 10% of the total population. The pre-test helped the researcher to make the necessary adjustments on the questionnaire after reviewing it with the help of research experts and the university supervisors, to ensure that the questionnaire had the ability to measure accurately the stress and coping strategies of active rugby referees (Suresh, 2015).

3.7.2 Reliability of the Research Instrument

Test-retest was used to measure the reliability of the questionnaire. The questionnaire was administered to eight referees officiating age-grade rugby tournaments at the RFUEA grounds and KCB sports club in Nairobi. It was then repeated two weeks later to the same referees, at the same venues. 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, 2011).

3.8 Data Collecting Procedure

The researcher got a research permit to carry out the study from the National Council for Science Technology and Innovation (NACOSTI) (Appendix I). Permission was sought from Kenya Rugby Union authorities so that referees could be used in this study (APPENDIX F). The researcher planned visits to the selected counties within the nine KRU districts to coincide with league matches and tournaments. After the match or
tournament, the researcher explained the procedure then distributed consent forms to the referees. The researcher then distributed the questionnaires to those who consented. Each referee responded to the provided set of questions in writing in about 15 minutes then handed them back to the researcher.

3.9 Data Analysis and Presentation Techniques

Data was entered and coded using SPSS version 23 for organisation and analysis. Descriptive statistics including frequencies, percentages, means and standard deviations were used to organise and summarise data. Tables and charts were used to present data obtained. The computed data was used as a guide to descriptively answer research questions one and two. One way Analysis of Variance (ANOVA), independent t-test and Pearson’s coefficient of correlation (ɤ) were used to analyze data. The t-test is an inferential test that determines whether there is a statistically significant difference between means in two unrelated groups, while the one way Analysis of Variance (ANOVA) is used to determine whether there are any significant differences between the means of three or more different groups. Pearson’s coefficient of correlation (ɤ) is used to determine whether there is a relationship between two or more variables.

3.10 Logistical, Ethical and Community Considerations

The researcher obtained an introduction letter from Graduate School Kenyatta University. An ethical review clearance was sought and obtained from Kenyatta University Ethics Review Committee. An informed consent form was designed and approved following guidelines from the committee. A research permit was obtained from the National Commission for Science, Technology and Innovation. Participants’ names were not
appearing anywhere on the questionnaire to assure them of confidentiality in handling the information they were to provide. Flyers educating the community about stress linked to refereeing were distributed in all venues (APPENDIX G).
CHAPTER FOUR: RESULTS AND FINDINGS

4.1 Introduction

This study examined the sources of stress and coping strategies of active rugby union referees in Kenya. The study also sought to establish if the two variables were mediated by age, gender and experience. Based on this study, it can be presumed that referees suffer stress and consequently employ coping strategies to mitigate that stress. A total of 80 questionnaires were filled and returned. Results from the analyses carried out in accordance with the purpose of the study were discussed in this chapter.

4.2 Demographic Data of the Participants

The respondents’ demographic data was tabulated and presented in form of tables and figures. Tables 4.1 presents age of the participants.

Table 4.1: Gender of the Participants

<table>
<thead>
<tr>
<th>Position</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>67</td>
<td>83.75</td>
</tr>
<tr>
<td>Female</td>
<td>13</td>
<td>16.25</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Results from descriptive studies on table 4.1 indicate that majority of the respondents (n=67, 83.75%) were males with (n=13, 16.25%) being female.

Age was categorized into these sets: 18-27, 27-36, 36-45 years of age. Table 4.2 presents age distribution of the participants.
Table 4.2: Age Distribution of the Participants

<table>
<thead>
<tr>
<th>Age bracket (in years)</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-27</td>
<td>18</td>
<td>22.50</td>
</tr>
<tr>
<td>27-36</td>
<td>35</td>
<td>43.75</td>
</tr>
<tr>
<td>36-45</td>
<td>27</td>
<td>33.75</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>80</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Results in table 4.2 reveal that most respondents (n=35, 43.75) were between 26-35 years old, followed by those between 36-45 years old (n=27, 33.65%). The least (n=18, 22.5%) were between 18-25 years old.

Experience of the participants was categorized in these sets: less than 5, between 5-10, between 10-20 and over 20 years. Figure 4.1 presents the years of experience of the participants.

![Bar chart showing years of refereeing experience](image)

**Figure 4.1: Refereeing Experience in Years**
Results in figure 4.1 show that majority (n=32, 40%) had less than five years of experience. Those with experience of between 5-10 years had the second highest number (n = 25, 31.25%). Those with experience of between 10-20 years had the second lowest number (n=18, 22.5%) while those with over 20 years of experience were the least (n=5, 6.25%).

4.3 Sources of Stress among Rugby Union Referees in Kenya

The study established several sources of stress associated with rugby refereeing exercise. These sources are summarized in table 4.3

Table 4.3: Source of Stress Questionnaire

<table>
<thead>
<tr>
<th>Source of stress</th>
<th>Overall mean</th>
<th>Overall SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intrapersonal</td>
<td>3.62</td>
<td>0.406</td>
</tr>
<tr>
<td>Performance</td>
<td>3.47</td>
<td>1.360</td>
</tr>
<tr>
<td>Environmental</td>
<td>3.20</td>
<td>1.362</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>3.02</td>
<td>1.226</td>
</tr>
<tr>
<td>Organizational</td>
<td>2.24</td>
<td>1.163</td>
</tr>
</tbody>
</table>

Among the intrapersonal sources, the respondents cited fear of failure as the most stressful (M=4.61, SD=.755). The second most cited item was injury concerns (Mean= 3.75, SD= 1.317). Age concerns (Mean = 2.62, SD=1.513) and role conflicts (Mean = 2.49, SD= 1.114) were rated as the sources that contributed the least stress.

With regards to performances sources of stress, the respondents rated the three most stressful events as being accurate with calls (Mean= 4.61, SD=.787), intensity of the match (Mean = 4.29, SD=1.021), being keen with decisions (Mean 4.15, SD= 1.181) and making an error (Mean = 4.05, SD=.992). The three least stressful events were fatigue
while refereeing (mean = 1.189, SD= 1.043), physical fitness (Mean=2.01, SD=1.097) and players and coach’s vocalizations (Mean= 2.73, SD=1.012).

In relation to environmental sources of stress, the findings indicated that fear of physical aggression (Mean = 3.85, SD= 1.420), uncontrolled assessment by the media and other parties (3.82, SD= 1.028) and time spent in refereeing related activities (Mean = 3.77, mean .842), in that order, were the most stressful events. On the other hand, traveling (Mean=1.89, SD= 1.043) and verbal abuse while refereeing (Mean = 1.78, SD=1.004) were the least stressful events.

As far as interpersonal sources are concerned, the respondents rated aim to be ranked higher than their fellow referees as the most stressful (Mean = 3.61, SD= 1.206) and conflict with other parties as the least stressful (mean 2.42, SD= 1.094). Concerning organizational sources of stress, appointments, (Mean=2.69, SD=1.318) fixtures and venues (Mean = 2.46, SD= 1.475) were cited as the most stressful events while evaluation (Mean = 1.87, SD= .966) promotions and ranking (Mean 1.99, SD= 1.184) were cited as the least stressful events.

4.3.1 Sources of Stress and Age of Rugby Union Referees in Kenya

Being accurate with calls was cited by those aged 27-36 years (n=27, 33.8%), those aged 36-45 years (n=22, 27.5%) and those aged 18-27 years (n=12, 15.0%) as being stressful. Fear of failure was quoted by (n=26, 32.5%) of those aged 27-36 years, (n=19, 23.8%) of those aged 36-45 years and (n=13, 16.2%) of those aged 18-27 years as stress related to refereeing. Intensity of play concerns was mentioned by those aged 27-36 years (n=25, 31.2%), those aged 36-45 years (n=14, 17.5%) and those aged 18-27 years (n= 6, 7.5%)
as performance related stress. Being careful in decision making was cited by those aged 27-36 years (n=16, 20.0%), those aged 36-45 years (n=14, 17.5%) and those aged 18-27 years (n=13, 16.2%) as a stressful event. The findings of the study also showed that, of those who were always stressed by missing a game due to injury, (n=17, 21.2%) were aged 27-36 years, (n=10, 12.5%) were of age 36-45 years while (n=8, 10.0%) were aged 18-27 years.

On the other hand, those who were not stressed by physical aggression (n=25, 31.2%) were aged 27-36 years, (n=17, 21.2%) were aged 36-45 years while (n=11, 13.8%) were within the age bracket of 18-27 years. Release of allocations was reported as not being stressful by those aged 27-36 years (n=18, 22.5%), those aged 36-45 (n=16, 20%) years and those aged 18-27 years (n=8, 10%). Respondents who reported that they were not stressed by traveling bothers, (n=19, 23.8%) were in the age bracket of 27-36 years, (n=11, 13.8%) were aged 18-27 years and (n=9, 11.2%) aged 36-45 years. Finally, of those not stressed by physical fitness requirements, (n=15, 18.8%) were within age bracket of 27-36 years, (n=12, 15.0%) were aged 18-27 years and (n=11, 13.8%) were aged 36-45 years. The total means and standard deviations under each age category were summarized in table 4.4.
According to these findings, respondents aged 27-36 years were the most stressed (Mean = 3.0677, SD=0.6140). Respondents aged 36-45 years (Mean = 2.9857, SD=0.5621) were second most stressed while respondents aged 18-27 years were the least stressed (Mean=2.89446, SD=0.5602). Analysis of Variance (ANOVA) was conducted to determine whether there is significant mean difference in the sources of stress across different age categories. The study findings were summarized in table 4.5.

### Table 4.4: Mean Sources of Stress per Age Group

<table>
<thead>
<tr>
<th>Age Category</th>
<th>18-27 years</th>
<th>27-36 years</th>
<th>36-45 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Mean</td>
<td>2.89446</td>
<td>3.0677</td>
<td>2.9857</td>
</tr>
<tr>
<td>Overall SD</td>
<td>0.5602</td>
<td>0.6140</td>
<td>0.5621</td>
</tr>
</tbody>
</table>

The results above show that there was no significant mean difference in sources of stress across different age categories, at $\alpha=5\%$ significance level ($F$-statistic $=1.113$, $p=0.334$). This is because the p value associated with the F-statistic was greater than 0.05. Therefore, the null hypothesis that there is no significant mean difference in sources of stress across different age categories of referees, was accepted.
4.3.2 Sources of Stress and Gender of Rugby Union Referees in Kenya

Being accurate with calls was cited as stressful by (n=44, 65%) of the male respondents compared to (n=9, 69%) of the female respondents who cited the same event as stressful. Fear of failure was mentioned as stressful by (n=40, 60%) of male respondents while (n=10, 76.9%) of the female respondents reported to suffer similar stress. Intensity of play concerns affected (n=31, 46.2%) of the male respondents and (n=8, 61.5%) of the females. Being careful while making a decision was quoted as stressful by (n=28, 42.4%) of the male respondents and (n=9, 69.2%) of the female respondents respectively. Missing a game due to injury was cited by (n=26, 38.8%) of the male respondents and (n=5,38%) of the female respondents.

Table 4.6: Mean Sources of Stress per Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Mean</td>
<td>3.07282</td>
<td>2.9871</td>
</tr>
<tr>
<td>Overall SD</td>
<td>0.6158</td>
<td>0.5804</td>
</tr>
</tbody>
</table>

According to table 4.6, the female respondents suffered more stress (Mean=3.07282, SD=0.6158) than the male respondents (Mean=2.9871, SD=0.5804). Independent t-test was conducted to determine whether there is significant mean difference in the sources of stress between male and female referees. The study findings were summarized in table 4.7.
Table 4.7: Independent t-test for Stress Level by Gender

<table>
<thead>
<tr>
<th>Stress level</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress level</td>
<td>.952</td>
<td>78</td>
<td>.344</td>
<td>.086</td>
</tr>
</tbody>
</table>

The results above show that there was no significant mean difference in sources of stress of male and female referees, at \( \alpha=5\% \) significance level \( t\text{-statistic} = 0.952, p=0.344 \). This is because the p value associated with the t-statistic was greater than 0.05. Therefore, the null hypothesis that there is no significant mean difference in sources of stress of male and female referees, was accepted.

4.3.3 Sources of Stress and Experience of Rugby Union Referees’ in Kenya

Majority \( (n=23, 28.8\%) \) of those stressed by being more accurate with calls, had a refereeing experience of less than 5 years, \( (n=19, 23.8\%) \) had experience of 5-10 years, \( (n=14, 17.5\%) \) had a refereeing experience of 10-20 years while a small number \( (n=5, 6.2\%) \) had experience of over 20 years. Fear of failure was quoted by \( (n=23, 28.8\%) \) of those with less than 5 years’ experience, \( (n=19, 23.8\%) \) those with experience of 5-10 years, \( (n=12, 15.0\%) \) those with refereeing experience of 10-20 years and only \( (n=4, 5\%) \) of those with refereeing experience of over 20 years. Intensity of play was cited by \( (n=17, 21.2\%), (n=15, 18.8\%), (n=10, 12.5\%) \) and \( (n=3, 3.8\%) \) of less than 5 years, 5-10 years, 10-20 years and over 20 years of refereeing experience respectively. Being careful with decisions was cited by \( (n=17, 21.2\%) \) of those with a refereeing experience of less than 5 years, \( (n=14, 17.5\%) \) of those who had an experience of less than 10 years, \( (n=8, 10.0\%) \) of those with refereeing experience of 10-20 years and \( (n=4, 5.0\%) \) of those who had a refereeing experience of over 20 years. Missing a game due to injury was reported as not being stressful by \( (n=13, 16.2\%) \) of those with an experience of less than 5 years,
(n=12, 15%) by those with an experience of less than 10 years, (n=6, 7.5%) of those with experience of 10 - 20 years and (n=4, 5%) of those with a refereeing experience of more than 20 years.

Physical aggression was cited as not being stressful by (n=23, 28.8%) and (n=14, 17.5%) of those with refereeing experience of less than 5 years and 5-10 years respectively and by (n=12, 15%) and (n=4, 5.0%) of those with refereeing experience of 10 - 20 years and over 20 years respectively. Release of allocations was cited by (n=17, 21.2%) of those with an experience of less than 5 years, by (n=13, 16.2%) of those with an experience of 10 - 20 years, by (n=10, 12.5%) of those with refereeing experience of 5-10 years and by (n=2, 2.5%) of those with an experience of over 20 years. Physical fitness requirement was quoted as not being stressful by (n=20, 25.0%) of those with a refereeing experience of less than 5 years, (n=10, 12.5%) of those with an experience of 5-10 years, (n=5, 6.2%) of those with refereeing experience of 10 - 20 and (n=3, 3.8%) of those with over 20 years respectively.

**Table 4.8: Mean Sources of Stress per Refereeing Experience**

<table>
<thead>
<tr>
<th>Experience</th>
<th>Less than 5 years</th>
<th>Between 5 and 10 years</th>
<th>Between 10 and 20 years</th>
<th>Over 20 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall mean</td>
<td>2.86784</td>
<td>3.17494</td>
<td>2.96706</td>
<td>3.10666</td>
</tr>
<tr>
<td>Overall SD</td>
<td>0.6042</td>
<td>0.6156</td>
<td>0.5393</td>
<td>0.5157</td>
</tr>
</tbody>
</table>
Findings indicate that respondents with 5-10 years of experience were the most stressed (Mean= 3.17494, SD=0.6156). Those with over 20 years’ experience (Mean=3.10666, SD=0.5157), those with less than 5 years’ experience (M= 2.86784, SD=0.6042) and those with 10-20 years of experience (Mean=2.96706, SD=0.6042) ranked second, third and fourth respectively. Analysis of Variance (ANOVA) was conducted to determine whether there is significant mean difference in the levels of stress across refereeing experience. The study findings are summarized in table 4.9.

**Table 4.9: Respondents’ Stress Level and the Refereeing Experience**

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1.371</td>
<td>3</td>
<td>.457</td>
<td>2.175</td>
<td>.009</td>
</tr>
<tr>
<td>Within Groups</td>
<td>15.969</td>
<td>76</td>
<td>.210</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17.340</strong></td>
<td><strong>79</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results above show that there was a significant mean difference in stress levels across refereeing experience, at α=5% significance level ($F$-statistic =2.175, $p=0.009$). This is because the p value associated with the F-statistic was less than 0.05. Therefore, the null hypothesis that there is no significant mean difference in stress levels across refereeing experience, was rejected.

**4.4 Coping with Stress among Rugby Union Referees in Kenya**

This study revealed different coping mechanisms employed by the rugby referees. The findings are summarised in table 4.10.
Table 4.10: Coping Strategies Overall Means and Standard Deviations

<table>
<thead>
<tr>
<th>Category</th>
<th>Overall Mean</th>
<th>Overall SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem focused</td>
<td>4.30</td>
<td>0.990</td>
</tr>
<tr>
<td>Avoidance</td>
<td>3.07</td>
<td>1.686</td>
</tr>
<tr>
<td>Emotion focused</td>
<td>2.92</td>
<td>1.492</td>
</tr>
</tbody>
</table>

Table 4.10 shows that problem focused (M=4.30, SD=0.990) coping was the most preferred while Emotion focused was the least preferred (M=2.92, SD=1.492). Participants ranked avoidance as the second most used coping mechanisms (M=3.07, SD=1.686).

4.4.1 Coping Strategies and Age of Rugby Union Referees in Kenya

Based on the study, (n=10, 55.6%) of the respondents aged 18-27 years, (n=27, 77.1%) of the group aged between 27-36 years and (n=12, 44.4%) of the group aged between 36-45 years cited planning as key to cope with fear of failure and role conflict.

Focusing on what one could control to cope with fear of failure was cited by (n=21, 60%) of respondents aged between 27-36 years of age and by (n=16, 59.3%) of the respondents aged between 36-45 years of age

Before the match, (n=13, 72.2%), (n=29, 82.9%) and (n=18, 66.7%) of the respondents aged between 18-27 years, 27-36 years and 36-45 years respectively cited prayer for good performance as a technique they would use.

The study revealed that (n=12, 66.7%), (n= 28, 80%) and (n=16, 59.3%) of the respondents aged between 18-27 years, 27-36 years and 36-45 years respectively
perceived making an error while refereeing or after poor performance as an opportunity to learn.

After a match (n= 9, 50%), (n=16, 45.7%), (n=13,48.1%) of the respondents aged between 18-27 years, 27-36 years and 36-45 years respectively mentioned performing a routine activity to cope while (n=5, 27.8%), (n=18, 51.4%) and (n=12, 44.4%) of the respondents aged between 18-27 years, 27-36 years and 36-45 years respectively cited the use chatting with the coaches, players and club officials respectively as a strategy to cope with post-match stress.

Table 4.11: Mean Rating of Coping Strategies per Referee age

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Mean Rating for Coping Strategies</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-27</td>
<td></td>
<td>3.4458</td>
<td>0.6580</td>
</tr>
<tr>
<td>27-36</td>
<td></td>
<td>3.5900</td>
<td>0.7356</td>
</tr>
<tr>
<td>36-45</td>
<td></td>
<td>3.4974</td>
<td>0.5710</td>
</tr>
</tbody>
</table>

Table 4.11 shows that respondents aged 27-36 years (M=3.5900, SD=0.7356) had the most coping skills while respondents aged 18-27 years (M=3.4458) had the least coping skills. Respondents aged 36-45 years had the second highest coping skills (M=3.4974, SD=0.5710). ANOVA was conducted to determine whether there was significant mean difference in the rating of stress coping strategies across different age categories.
Table 4.12: ANOVA Results for Coping Strategies by Age

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>.281</td>
<td>2</td>
<td>.141</td>
<td>1.070</td>
<td>.348</td>
</tr>
<tr>
<td>Within Groups</td>
<td>10.114</td>
<td>77</td>
<td>.131</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>10.396</td>
<td>79</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results in table 4.12 show that there was no significant mean difference in the rating of coping strategies by different age groups at α=5% level of significance. \( (F\text{-statistics}=1.07 \ p=0.348) \). Therefore, the null hypothesis that there was no significant mean difference in the rating of coping strategies across different age categories, was accepted.

### 4.4.2 Coping Strategies and Gender of Rugby Union Referees in Kenya

Based on the study findings, focusing on what one could control was cited by male (n=39, 58.2%) and female (n=10, 76.9%) respondents. When other commitments such as family, work and studies interfere with refereeing activities planning was quoted by both male (n=36, 53.7%) and female (n=9, 69.2%). Praying for a good performance before a match strategy was mentioned by (n= 49, 73.13%) and (n=11, 84.6%) males and females respectively, while engaging in a positive self-talk was cited by males (n= 37, 55.2%) and females (10, 76.9%).

When the respondents’ performance was criticized (n= 47, 70.2%) and (n=7, 53.8%) males and females respectively cited reviewing their performance as a coping
mechanism. To cope with making an error while refereeing or having a poor performance, (n= 46, 68.7%) of the males and (n=10, 76.9%) of the females quoted using it as an opportunity to learn. Talking about the error with other officials was cited by (n=30, 44.8%) and (n=9, 69.2%) of the males and females respectively. After a match (n=32, 47.8%) of the males and (n=6, 46.2%) of the females performed a set of routine activities as a mechanism for coping with post-match stress.

Table 4.13: Mean Rating of Coping Strategies by Referee Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Mean Rating of Coping Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>3.6682</td>
</tr>
<tr>
<td>Male</td>
<td>3.4987</td>
</tr>
</tbody>
</table>

Table 4.13 indicates that, on average, female respondents had more coping skills (Mean=3.6682, SD=0.7697) than male respondents (Mean = 3.4987, SD=0.8191). Independent t-test was conducted to determine whether there is significant mean difference in coping strategies between male and female referees.

Table 4.14: Independent t-test Results for Coping Strategy by Gender

<table>
<thead>
<tr>
<th></th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coping strategies</td>
<td>1.556</td>
<td>78</td>
<td>.124</td>
<td>.16951</td>
</tr>
</tbody>
</table>

Independent t test was conducted to determine whether there was a significant mean difference in the rating of coping strategies across gender. The results in table 4.14 shows that there was no significant mean difference in the rating of stress coping strategies across sex groups at α=5% level of significance (t-statistic= 1.556, p=0.124). Therefore,
the hypothesis that there is no significant mean difference in the rating of stress coping strategies across gender groups, was accepted.

4.4.3 Coping Strategies and Experience of Rugby Union Referees in Kenya

Planning was a key stress coping strategy applied by all respondents despite their varied experience in refereeing. This was cited by (n=17, 68%) and (n= 20, 62.5%) of the respondents with 5-10 years and less than 5 years of refereeing experience respectively. It was also applied by (n=9, 50%) and (n=3, 60%) of the respondents with 10-20 years and those with over 20 years of experience respectively.

Findings revealed that respondents (n=18, 72%) with 5-10 years of experience cited focusing on what one can control to cope with fear of failure while (n=22, 68.75%) (n=, 15, 60%) of the respondents with less than 5 years and 5-10 years of refereeing experience respectively cited seeking information as a coping technique. To manage the pre-match stress, (n=17, 53.1%) and (n=14,56%) of the respondents with less than 5 years and 5-10 years of refereeing experience respectively quoted performing a set of activities before the match, while (n=16, 64%) of the respondents with 5-10 years’ experience engaged in positive self-talk.

Based on this study, prayer was pronounced by (n=25, 78.1%), (n=20, 80%) and (n=5, 27.8%) of the respondents with less than 5 years, 5-10 years and 10-20 years of refereeing experience respectively as a coping mechanism before a match. Concentrating on what followed when the players, coaches and fans protested the respondents’ calls was cited by (n=20, 62.5%), (n=17,68%), (n=10,55.6%) and (n=3, 60%) of the respondents
with less than 5 years, 5-10 years, 10-20 years and over 20 years of refereeing experience respectively as a stress coping mechanism. Based on the study findings, (n=24,75%), (n=19,76%), (n=10,55.5%) and (n=3,60%) of the respondents with less than 5 years, 5-10 years, 10-20 years and over 20 years of refereeing experience respectively mentioned using errors committed while refereeing or poor performance as an opportunity to learn.

Table 4.15: Mean Rating of Coping Strategies by Referee Experience

<table>
<thead>
<tr>
<th>Refereeing experience (years)</th>
<th>Mean Rating for Rating Strategy</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5</td>
<td></td>
<td>3.4697</td>
<td>0.9070</td>
</tr>
<tr>
<td>Between 5-10</td>
<td></td>
<td>3.6037</td>
<td>0.7953</td>
</tr>
<tr>
<td>Between 10-20</td>
<td></td>
<td>3.4606</td>
<td>0.7528</td>
</tr>
<tr>
<td>Over 20</td>
<td></td>
<td>3.7372</td>
<td>0.5153</td>
</tr>
</tbody>
</table>

Findings revealed that respondents with over 20 years’ experience had the most coping skills (Mean= 3.7372, SD=0.5153). Those with 5-10 years’ experience (Mean=3.6037, SD=0.7953) ranked second while those with less than 5 years’ experience (Mean=3.4697, SD=0.9070) ranked third. Those between 10-20 years’ experience had the least coping skills (Mean = 3.4606, SD=0.7528).

Table 4.16: ANOVA for Coping Strategies by Referees’ experience

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>.552</td>
<td>3</td>
<td>.184</td>
<td>1.421</td>
<td>.243</td>
</tr>
<tr>
<td>Within Groups</td>
<td>9.843</td>
<td>76</td>
<td>.130</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>10.396</td>
<td>79</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The ANOVA results in table 4.16 above shows that there was no significant mean difference in the rating of stress coping strategies across different referees’ experience at $\alpha=5\%$ level of significance. ($F$-statistic$=1.421$, $p=0.243$). Therefore, the null hypothesis that there was was no significant mean difference in the rating of stress coping strategies across different referees’ experience, was accepted.

### 4.4.4 Relationship Between Sources of Stress and Coping Strategies of Rugby Union Referees in Kenya

This study also sought to establish if there was a relationship between sources of stress and coping strategies of rugby referees. The Pearson’s Correlation Coefficient was conducted to determine whether there was a significant relationship between sources of stress and coping strategies.

**Table 4.17: Correlation Analysis Results between Sources of Stress and Coping Strategies**

<table>
<thead>
<tr>
<th>Sources of Stress</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th>Coping strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sources of Stress</td>
<td></td>
<td></td>
<td>.497</td>
</tr>
<tr>
<td></td>
<td>Pearson Correlation</td>
<td></td>
<td>.008*</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>80</td>
<td>80</td>
</tr>
</tbody>
</table>

From the results in Table 4.17, there was a moderate positive relationship between stress levels and coping strategies ($r=0.497$). This relationship was significant at $5\%$ level of significance as the associated $p$ value ($p=0.008$). Therefore, the null hypothesis that there is no significant relationship between sources of stress and coping strategies, was
rejected. The above correlation analysis results are interpreted to mean that an increase in stress among rugby referees triggers them to acquire more stress coping skills.
CHAPTER FIVE: DISCUSSION OF FINDINGS

5.1 Introduction

The present study examined sources of stress and coping strategies of active rugby union referees in Kenya. It was designed to assess demographic details, sources of stress and coping strategies the referees employ to mitigate the stress. The study also sought to establish the effect of independent variables of age, gender and experience on sources of stress and coping strategies. Lastly, the study sought to establish the relationship between sources of stress and coping strategies.

5.2 Age of Active Kenya Rugby Union Referees

The study targeted active rugby union referees aged between 18 and 45 years. Results indicated that rugby union referees in Kenya belong to different age-groups. Consistent with an earlier study by Muamba et al., (2013) majority of referees (43.75%) in this study were between 27-36 years old. The second highest number of referees were aged between 36-45 years (33.75%) while referees aged 18-27 years who were the least (22.5%). Contradicting Breuer, Hallmann and Wicker (2011) this study revealed that in refereeing, participation does not decrease with age given the common practice where referees tend to graduate from other playing and non-playing roles (Dell et al., 2016). Therefore, majority of rugby referees in Kenya enter the activity relatively late in their sports life. However, this trend seems to be changing considering the number of referees aged between 27 – 36 years were more than referees aged between 36 – 45 years. This indicates that referees are being recruited at a younger age than was the case previously. This study also shows that rugby referees in Kenya remain active well over 35 years of
According to Weston, Castagna, Impellizzeri, Rampinini and Breivik (2010) referees remain active longer than players because their physical demands are less in comparison to players.

### 5.3 Gender of Active Kenya Rugby Union Referees

Findings reveal that rugby union refereeing in Kenya attracts athletes from both genders. However, this study found out that women were severely under-represented in this domain whereby the number of male referees (83.75%) in Kenya was three times more than that of female referees (16.25%). Consistent with these results, Muamba et al., (2013) found out that the number of female rugby referees in Kenya was significantly low. Although the number went up three times in the current study, the activity continues to be dominated by male referees. However, the low representation of women is not unique to refereeing rugby. Earlier studies show that participation of women in male dominated sports is usually low (Njororai Simiyu, 2015). Consequently, the number of women who take up officiating roles remains low considering that motivation to officiate in amateur settings is dependent on an earlier exposure to the game (Negri, 2010).

According to Verbridge (2014) and Perreau-Niel and Erard (2015) recruitment of women to officiate male dominated sports was difficult due to the patriarchal attitudes associated with participation of female referees in such sports. Forbes et al. (2015) and Kim and Hong (2016) found out that retention of women referees in male dominated sports was poor because the environment is more stressful to women referees than it is to their male counterparts (Ndambiri, 2014).
5.4 Experience of Active Kenya Rugby Union Referees

The study involved referees of different levels of experience. Figure 4.1 show that referees with less than five years of experience were the majority (40%) while those with over 20 years of refereeing were the least in number (6.25%). This is an indication that refereeing rugby in Kenya is becoming more and more appealing. Referees with an experience level of between 5-10 years were slightly more (31.25%) than those with an experience level of between 10-20 years (22.5%). These results revealed that most rugby union referees in Kenya were relatively new in the activity. It further shows that, as a career, rugby refereeing is not only becoming attractive, but it also has a future. Yet, refereeing rugby in Kenya is still a voluntary activity (Muamba et al., 2013) and refereeing is a skill that not everyone possesses. Secondly, sports organizations worldwide are struggling to recruit and retain match officials given the pressure that accompanies the role of officiating (Bernal et al., 2012). Therefore, this new interest in refereeing rugby in Kenya needs further investigation.

5.5 Sources of Stress among Active Rugby Union Referees in Kenya

Participants rated sources responsible for causing them stress as intrapersonal, performance, environmental, interpersonal and organizational in that order. These sources contributed varying amounts of stress affecting referees. Out of the five sources, intrapersonal and performance sources caused the greatest amount of stress to the participants. This study supports findings from a previous study by Baldwina (2013) which found out that referees’ experience stress before, during and after performance. Based on this study, fear of failure, related to intrapersonal stress, and being accurate with one’s calls, related to performance stress, were rated as the most stressful events.
Although coming from different sources of stress, the two events are similar in that they focus on the individual performance of the referees. According to Sagar et al., (2010) fear of failure is the pressure to avoid mistakes while being accurate with one’s calls is about making good refereeing decisions during a match. Rating these two events as the most stressful therefore means that the referees desire to be successful through quality performances on the pitch. Pressure is aggravated by the fact that, in refereeing, performing impeccably is almost impossible. Secondly, their performance is in the public domain which renders them vulnerable to both self and other uncontrolled negative evaluation in case of poor performance (Nazarudin et al., 2017). A poor performance brings about feelings of foul mood and poor interpersonal behavior. Moreover, the Kenya Rugby Referees Society bases future appointments on performance hence referees are likely to be judged as incompetent jeopardizing their chances for future appointments. Similarly, promotions of referees on the Kenya Rugby Referees pathway is dependent on performance (KRRS, 2019). These findings therefore led to the conclusion that the Kenya rugby union referees place significant emphasis on their performance which is a key indicator of personal success and progress in the refereeing pathway.

Departing from previous studies that have ranked verbal abuse as the most stressful event in refereeing (Cuskelley & Hoye, 2013), the present study established that verbal abuse contributed the least amount of stress to Kenyan rugby union referees. These findings however supported earlier findings by Anshel et al., (2013) and Baldwina (2013) who had ranked verbal abuse as the least stressful. According to Forbes et al. (2015), verbal aggression is common in officiating and referees expect it. Players, coaches and spectators are responsible for the insults that target referees. However, referees believe
that verbal aggression towards them is spontaneous and should not be taken personally. According to KRU (2017), not all cases of verbal aggression towards referees are reported by Kenyan referees. This is an indication that referees consider it as part of the game. Nonetheless, the Kenya Rugby Union implements the World Rugby Code of Conduct which upholds respect for match officials (KRU, 2017).

Findings indicate that the participants were least bothered by organizational sources of stress compared to other sources. An organization can augment stress when it fails to meet its obligations to manage both the athletic and non-athletic needs of the referees (Ströbel et al., 2018). Rugby venues in Kenya have a poor layout leaving referees exposed to the non-playing staff of teams and the spectators. Similarly, the venues have very vocal and partisan fans. Structures related to referee pathways, objective assessments and social support are limited (KRRS, 2017). Therefore, organizational sources of stress not featuring as a significant source of stress should be a subject for future research.

5.5.1 Sources of Stress and Age of Active Rugby Union Referees in Kenya

According to the present study, the age of the active rugby union referees had no significant relationship with sources of stress affecting them. As a result, one can conclude that the amount of stress affecting referees was not dependent on their age. The findings of this study were therefore at variance with those by Kruger et al. (2012) who reported that stress in refereeing is dependent on age. However, the results of the present study were in concordance with findings by Stults-Kolehmainen and Sinha (2014) who
opined that stressors affecting referees of different ages differ according to the environment they are exposed to but not their age.

Further, it could be concluded that referees in different age groups received stress from different sources due to personal, refereeing career and situational factors (Hoar et al., 2010). Based on this study, referees aged 27-36 years were the most stressed. Most stress affecting this age-group was contributed by performance sources of stress. Being accurate with calls, fear of failure and match intensity concerns were the performance related stressors that contributed the most amount of stress to this age-group. Participants aged 36-45 years old ranked second in terms of amount of stress suffered. According to this study, referees aged 18-27 were the least stressed. Referees in this age-group ranked performance, intrapersonal and environmental sources of stress as the most stressful departing from an earlier study by Hoar et al., (2010) who ranked interpersonal, performance and organizational sources as the most stressful to young referees. However, these findings are consistent with findings by Diotaiuti et al. (2017) who found out that young referees are mostly affected by performance related sources. Nonetheless, this study observed that this age-group reported suffering significant stress from intrapersonal sources. These findings were therefore congruent with those by Mwisukha et al. (2011) who argued that young athletes suffer from intrapersonal sources of stress related to balancing between their athletic responsibilities and other academic and social roles.

Based on data collected in this study, rugby union referees in Kenya are recruited between their youth and young adulthood stages in life. Refereeing career begins (18 -27 years) as a fun hobby then it gradually develops into a more demanding activity (27-36)
(Palosaari, 2017). At a later stage (36-45 years old), the activity becomes less demanding because either the referees will have met most of their goals or they may choose to drop their ambitions as opportunities to progress further in their career become fewer due to their age. Like other rugby referee societies around the world, the Kenya rugby Referees society pathway programme envisions retirement age between 40 and 45 years (KRU, 2017). Youthful referees (18-27 years old) were the least stressed since they are quite new in the activity hence, they perform beginner roles that are not so demanding. According to the KRRS (2017), referees in this age group usually begin as 4th and 5th officials, score keepers and time-keepers before gradually progressing to officiate the lower category of leagues and competitions. On the other hand, referees within 27-36 years encountered the most stress because, as referees progress, they become more goal oriented and seek success in the career. Those within 36-45 shift to less demanding post-peak goals (Ronkainen & Ryba, 2017) hence a decline in the amount of stress between the second and the third categories. Among the Kenyan rugby referees, this category is comprised of referees who continue refereeing while positioning themselves for retirement.

Inconsistent with previous studies by Wanjiru (2014) and Rintaugu and Mwisukha (2012) who highlighted advancement in age as a main contributor to intrapersonal related stress, this study established that elder referees rated intrapersonal sources lower than the other two preceding age-groups indicating that they were not bothered by intrapersonal sources as much as the they were concerned by the performance and environmental sources. Therefore, it can be concluded that active rugby referees in Kenya are not affected by intrapersonal stressors linked to advancement in age which brings along decline in
performance and feelings of denial due to the imminent retirement (Baldwina, 2013). This could be attributed to the roll out of World Rugby Officiating Courses by KRU, which allows referees to select other officiating roles upon retirement. These include match officials Trainers and Educators, Coaches of Match Officials and Citing Commissioners (KRU, 2017).

Stress originating from performance and environmental sources affecting the elder referees could be attributed to the desire to gain satisfaction from a career in which they have invested a significant amount of time and personal resources (Muamba et al).

Since age of the referees did not influence the sources of stress affecting them, programmes such as “I play Also Referee” that aim to introduce children to officiating rugby through basic understanding of rules, should be encouraged because age will not put them at a risk of succumbing to stress. Likewise, since refereeing rugby is a voluntary activity, recruitment should not be based strictly on age. Nonetheless, the quality of officiating should not be compromised.

5.5.2 Source of Stress and Gender of Active Rugby Union Referees in Kenya

This present study revealed that there was no significant relationship between gender and sources of stress. Therefore, these findings are at odds with earlier studies by Tamminen & Holt (2010) who opined that stress affected female athletes more than male athletes. This study therefore concluded that rugby refereeing demands were the same for both genders.

However, this study established that, on average, female participants received stress from more sources as compared to their male colleagues. This could be interpreted to mean
that being in a male dominated arena, female referees’ appraisal of stress differed from that of male referees. It was only from environmental sources of stress that male participants reported receiving more stress as compared to female participants. This study also indicated that female referees suffered more stress emanating from performance and intrapersonal sources than the male referees. This can be attributed to the fact that women referees must penetrate and remain relevant in the activity through acceptable good performance hence more performance concerns. A female referee will pay more attention to her physical and psychological performance demands since failure to perform will be attributed to the fact that she is female (Kim & Hong, 2016) yet, she has the necessary competencies. Indeed, according to the KRRS (2017), no women referee has ever had a chance to officiate a final of a main male competition such as the Kenya Cup league or the National Sevens Circuit despite having same qualifications as their male counterparts who officiate such levels of the competitions. The findings of this study therefore supported earlier findings by Forbes et al. (2015) who reported that women referees in male dominated sports were compelled by gender prejudice to produce exemplary performances.

In conclusion, the present study established that female referees were overwhelmingly under-represented in rugby in Kenya. Based on the results that gender does not influence sources of stress, a thorough female referees recruitment campaign would be necessary to increase the number of female referees in Kenya. Similarly, the KRRS, should deliberately increase their opportunities by dispelling gender perceptions which increase pressure unnecessarily. However, continuous professional development to cushion them
from the demands of officiating a male dominated sport is equally important because the situation won’t change overnight.

5.5.3 Source of Stress and Experience of Active Rugby Union Referees in Kenya

The findings of present study revealed that there is a significant positive relationship between sources of stress and the experience of a referee. It therefore supports earlier studies (Slack et al., 2014) that as a referee gathers more experience, the more officiating demands they encounter.

Ritchie (2014) argued that referees of any level of experience will encounter stress. However, Baldwin (2008), Mathers and Brodie (2011) and Slack et al. (2014) found out that the amount of stress will vary depending on the experience of the referee. In this study, sources of stress varied greatly when viewed against referees’ experience. In contrast to age and gender variables, performance sources of stress did not rank as the most stressful across all categories. Consistency was only established when all the categories cited interpersonal and organizational sources as the least stressful.

Based on this study, performance concerns were cited by referees of low to moderately high experience. Being accurate with decisions and fear of failure were the most severe performance stressors to referees of low experience. Good performance is a key outcome for referees. Given that the KRRS bases future appointments and promotions of referees on performance, the two events are therefore severe to referees of low experience because of the pressure to produce satisfactory performances in order to grow in their careers. In addition, this study revealed that active experienced rugby union referees in Kenya are fewer compared to less experienced ones. It could therefore be concluded that
performance related stress was severe on the other categories of experience because the KRRS is forced to fast-track them to officiate matches above their level of experience.

In this study, experienced referees quoted intrapersonal sources as the most stressful. According to Muamba et al. (2013), experienced Kenya Rugby Union Referees tend to also have progressed in their other professional careers. Similarly, they have family responsibilities that conflict with refereeing duties. Yet, they still need to place significant importance on their performance since they are expected to be role models.

Similarly, experienced referees were very much affected by performance related stress linked to physical fitness concerns. The KRRS, relies heavily on experienced referees to adjudicate higher level leagues and competitions yet the modern game demands high levels of fitness (Nazarudin, et al., 2018) where referees are being forced to train more like players. Traditionally, majority of the referees get recruited during the post-teen years of their lives (Palosaari, 2017). Therefore, a referee accumulating over 20 years’ experience could well be over forty years old. Therefore, added responsibilities related to both professional and family roles significantly reduce the time available for referees to properly condition their bodies leading to the worries about their physical fitness. Likewise, in Kenya, referees with an experience ranging between 10 to 20 years as well as over 20 years will most likely be officiating players 5 to 10 years younger than them. As a result, higher levels of fitness are expected from them. Yet, acquiring the services of Strength and Conditioning coaches focused on referee’s physical preparation is rare in Kenya because such coaches are engaged by clubs since that could be more lucrative (KRU, 2017). Hence, referees lack the professional approach to condition their bodies for the activity.
On the other hand, these findings were in discordance with those of previous studies that opined that new referees endured the most stress (Cuskelly & Hoye, 2013) since in this study, referees with less than 5 years’ experience were the least stressed. The KRRS envisions a career pathway that factors in the experience of the referees since experience facilitates performance (Pizzera & Raab, 2012). According to the pathway, at the entry level, no huge demands are placed on the referee since the main activity at this stage is more of learning the basics through beginner courses and roles. Once the referees go through a learning process, stress shoots when the individual progresses in their career hence more demands and expectations which explains the high levels of stress for referees with 5-10 years’ experience in this study. Stress reduces as referees gather more experience and became familiar with the environment (10-20 years’ experience) but rise again as referees experience increases (over 20 years’ experience). At this level, new types of demands such as being appointed to crucial matches like finals, added responsibilities like mentorship as well as roles conflicts, emerge.

In conclusion, referees with experience of between 5-10 years who were most stressed require support to prevent them from succumbing to consequences of stress while they still have a lot to contribute to refereeing. Having established that stress increases with experience, over reliance on experienced referees could push them to burn out or drop out. In fact, newer referees should be provided with deliberate practical experience to reduce dependence on the experienced ones.
5.6 Stress Coping Strategies of Active Rugby Union Referees in Kenya

This study revealed that rugby referees in Kenya used different coping mechanisms to combat stress they endured during officiating. Participants used more techniques to manage before and during match stress such as pre-match routines, planning, praying and maintaining concentration. Coping techniques that manage post-match stress such as post-match routines, chatting with players and coaches, seeking social support and chatting with other referees, were not used to a similar extent. This is an indication that stress is greatest before and during matches hence a variety of coping mechanisms required. After the match, referees deal with specific stress factors occasioned by the just concluded match hence fewer strategies are engaged.

The referees relied mostly on problem-focused coping mechanisms as compared to emotion focused and avoidance mechanisms. Organizational support, however, was not as popular as the other problem focused techniques employed by the referees meaning that the referees preferred to use the techniques that they had direct control over. This could also be attributed to the fact that rugby referees in Kenya are intrinsically motivated by the love of the game to start and continue officiating (Muamba et al., 2013), therefore they feel obliged to contribute towards development of the game with or without organizational support.

Respondents in this study used avoidance coping mechanisms related to discounting and psychological distancing including maintaining concentration, treating a stressful event as part of refereeing, self-distraction activities of pre-match and post-match routines and focusing on what one can control. According to Anshel et al. (2013) avoidance coping skills are effective in managing stress related to the officiating environment. The rugby
environment in Kenya is demanding to referees due to the increasing competition among teams and players focused on accomplishing personal and collective goals such as earning a living, national team call ups and attracting sponsorships (Muamba et al., 2013).

Praying and positive self-talk were popular emotion focused coping technique used by the referees to shield themselves against pre-match stress while chatting with coaches and players and seeking the support of family and friends were popular in dealing with post-match stress. Chatting with coaches and players is a common practice witnessed in rugby venues in Kenya after a match where the parties get an opportunity to interact in a less pressurized environment (Gabbei, 2012).

However, having fun, self-blame and confronting aggressors as well as maladaptive avoidance coping techniques of sleeping, giving up and consuming drugs were not commonly employed by the respondents. This could be attributed to the fact that referees are athletes high on achievement motivation (Slack et al., 2013) hence use of ineffective coping strategies such as the ones above is quite rare.

In conclusion, this study established that there was a significant relationship between sources of stress and coping strategies. The findings indicated that the referees coped actively with stress affecting them by employing a variety of strategies.

5.6.1 Stress Coping Strategies and Age of Active Rugby Union Referees in Kenya

According to the present study, age did not influence coping strategies of the rugby union referees in Kenya. Hence, this study was at variance with a previous study by Rintaugu et al. (2014) which established that coping skills increased with age.
Referees aged 27-36 employed the most coping skills compared to the other two age groups. This age-group reported the most problem focused and avoidance related techniques of the three groups. These two coping techniques are quite effective in arresting stress affecting referees (Anshel et al., 2013). This study also reported that referees in the same age group were the most stressed which shows a link between amount of stress suffered and the amount of coping skills employed.

Congruent with findings by Kristiansen and Roberts (2010) and Al-Dubai et al. (2011) who opined that progression in age envisions use of emotion focused coping strategies, this study’s findings show that the highest emotion focused coping mechanisms were reported by the referees aged 36-45 years.

Prayer before a match and using poor performance as an opportunity to learn were the most popular strategies preferred by referees across the three age-groups meaning that, in general, referees found them to be effective coping strategies. Indeed, using poor performance as an opportunity to learn is operational in refereeing because flawless performance in refereeing is almost nil. Referees in Kenya use recorded matches for self-assessment to identify areas requiring improvement (KRRS, 2017).

Referees aged 18-27 years reported the least copings skills. Coping skills increased with the 27-36 years old group then decreased with the 36-45 years group. Based on the results for sources of stress in the preceding section, a pattern can be established whereby the most stressed age-group reported the most coping skills while the least stressed reported
the least coping skills showing the amount of stress suffered dictated the coping skills to be employed.

In conclusion, the findings indicate that the Kenya Rugby Union referees have knowledge of the demands in their officiating environment. Consequently, they face them through active coping. Although age per se does not influence coping strategies, it could be concluded that growth and development changes related to age will dictate the choice of one coping strategy over another (Forbes et al., 2015).

5.6.2 Coping Strategies and Gender of Active Rugby Union Referees’

According to the present study, there was no significant relationship between gender and coping strategies. This study is therefore at variance with the study by Rintaugu et al. (2014), which reported coping strategies were mediated by gender. However, these findings are in concordance with findings by Hoar et al. (2010) and Cherkil et al. (2013) which showed that sources of stress, rather than gender, dictates coping mechanisms adopted.

Based on this study, both male and female referees coped actively with refereeing stress. Findings revealed that female referees had more coping skills based on the three broad categories of problem focused, emotion focused and avoidance coping supporting Pierre (2013) who postulated that women have more coping skills than men. The desire to emerge as competent in the male dominated rugby environment in Kenya puts female referees under significant pressure hence the employment of more coping skills to persist in that kind of environment. Consistent with findings by Monteiro et al. (2014), Rintaugu et al., (2014), Cherkil et al., (2013) and Nwankwo and Onyishi (2012), this study did not
establish a reliable pattern regarding gender response to stress. Findings show that, female referees preferred mostly emotion focused strategies of praying and positive self-talk and avoidance coping strategy of focusing on what one can control. On the other hand, male referees preferred mostly emotion focused strategy of praying and problem focused strategy of reviewing performance. These findings showed that both male and female referees were religion-oriented departing from earlier findings by Giurgiu and Damian (2015) who held that female athletes were more religion oriented in comparison to male athletes. Contrary to findings by Kim and Hong (2016) and Giurgiu and Damian (2015) female participants in this study did not report social support as a prominent coping mechanism. However, female participants generally preferred emotion focused skills as compared to their male counterparts supporting an earlier study by Pierre (2013) who opined that women due to the emotional adjustments tend to use more of these coping strategies. It could therefore be concluded that the personal and situational circumstances of active Kenyan rugby union referees played a role in determining the selection of coping strategies.

In conclusion, female rugby referees in Kenya ought to focus more on peer social support due to their small number in the group of referees. According to Kim and Hong (2016) social support is key in providing comfort to female referees officiating male dominated sports.

5.6.3 Coping Strategies and Experience of Active Rugby Union Referees in Kenya

Based on present study, experience did not influence coping strategies of rugby union referees in Kenya. The findings were therefore in concordance with those of Mohamad et al., (2009) who reported that experience does not increase coping skills. However, the
findings were in discordance with those of other studies including Baldwina (2013), Guillén and Feltz (2011) and Diotaiuti et al., (2017) who argued that experience increases coping skills. Indeed, it has been observed that experienced rugby referees in Kenya were continuously appointed to more demanding matches in the assumption that they will be able to cope better with the pressure of handling such matches (KRU, 2017). According to the present study however, experience may not be relied upon to determine which referee has more coping skills.

According to Nazarudin et al. (2014), referees of different levels of experience coped differently. In this study, experienced referees had the most emotion focused and avoidance coping skills as compared to the other three categories of experience. The emotion focused mechanisms used by this group were significantly high compared to other groups. On the other hand, referees with the least experience had the most problem focused coping skills. These findings support previous studies by Monteiro et al. (2014) who held that experienced referees were more emotionally balanced and by Anshel et al. (2012) who established that experienced referees used avoidance coping more than less experienced referees. The use of different strategies could be attributed to prevailing circumstances a referee experienced depending on their current position on the pathway (KRRS, 2017).

Findings indicated that new referees in Kenya used more of problem focused coping since being relatively new they are in the process of learning the activity by performing beginner roles. An effective coping mechanism is crucial as the new referees seek to advance in their new career. In Kenya, referees at this level are concerned about enhancing their personal attributes such as mastering the laws of the game and attending
referee courses to equip themselves with relevant technical knowledge (Palosaari, 2017). On the other hand, findings from this study show that more experienced referees rely on emotion focused and avoidance coping mechanisms. According to Anshel et al. (2012), experienced referees understand that the unique officiating demands are better dealt with through controlled emotional reactions and disengagement from stressful events. While dealing with a protesting coach, for example, an inexperienced referee may be quick to quote the law that guided his decision while an experienced referee may allow the coach to vent knowing too well that the coach could just be upset by a loss or a poor performance by his team.

In conclusion, the perception of rugby union referee managers in Kenya that experience makes better coping referees is misguided according to this study. Appointing them to officiate the most demanding matches as a result only serves to increase their stress which can be counter-productive. KRRS should instead focus on improving the technical performance of referees across all levels of experience to equip them with the necessary skills to handle all kind of matches.

5.6.4 Relationship Between Sources of Stress and Coping Strategies of Active Kenya Rugby Union Referees

According to the present study, there was significant relationship between sources of stress and coping strategies. Therefore, increase in sources of stress among rugby referees triggers them to adopt more stress coping strategies (Kausar, 2010). Findings from this study have established patterns relating increase in stress to adoption of more coping strategies by referees. While investigating age and sources of stress and age and coping strategies respectively, this study identified that the age categories that reported most
stress also reported use of the most coping techniques. Similarly, female referees who were more stressed according to this study, had more coping skills in comparison to male referees. However, a discrepancy was observed in relation to the experience of the referees. According to this study, experience influenced sources of stress. However, it did not influence coping strategies. Therefore, the most stressed referees were not the ones with most coping skills. This could a topic for further research. In conclusion, the Kenya rugby union referees were not at risk of suffering the consequences of stress because they are able to adapt their coping skills to match the stress being experienced.
CHAPTER SIX: SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Summary of Findings

The present study was concerned with sources of stress and coping strategies of active rugby union referees in Kenya and whether the variables of age, gender and experience influenced them. The study findings were summarized as follows:

i. Stress is prevalent among rugby union referees in Kenya.

ii. Performance sources of stress caused the most stress to the referees while organizational sources caused the least stress.

iii. The most stressful events affecting the referees were fear of failure and being accurate with one’s calls.

iv. Fatigue while refereeing, traveling, verbal abuse and evaluation while refereeing were the least stressful events affecting the referees.

v. Referees coped actively with the stress endured.

vi. Problem focused coping strategies were the most preferred by the referees to cope with stress while emotion focused coping was the least preferred.

vii. Referees used the avoidance coping techniques of discounting and psychological distancing which are effective coping strategies of reducing stress unique to officiating sports.

viii. Praying and planning was the most preferred coping technique to deal with pre-match stress, maintaining concentration was the most preferred in dealing with during match stress while opportunity to learn was the most preferred in dealing with post-match stress.

ix. Referees paid more attention to pre-match stress as compared to post-match stress.
x. Age had no effect on neither source of stress nor coping strategies.

xi. There was no significant relationship between the referees’ gender and neither sources of stress nor coping skills.

xii. Referees’ experience influenced sources of stress but had no effect on coping strategies.

xiii. There was a relationship between sources of stress and coping strategies. The more stressed a referee was the more coping skills they possessed.

6.2 Conclusions

Rugby Union referees in Kenya encountered stress from different sources including intrapersonal, interpersonal, performance, environmental and organizational. Intrapersonal and performance sources affected the referees most meaning that the referees were goal-oriented athletes who aimed to excel in officiating rugby. Consequently, the referees employed different coping mechanisms to mitigate the stress as they continued officiating. Although problem focused was the most employed mechanism, the referees chose other coping techniques related to emotion focused and avoidance mechanism to arrest stress associated with officiating rugby. Therefore, active rugby union referees in Kenya were not at risk of succumbing to negative effects of stress because they coped actively with stress suffered.

According to this study the age of referees did not influence sources of stress nor coping strategies adopted by referees. Referees of different ages suffered stress depending on the environment they found themselves then applied relevant coping strategies across different ages.
Although there was no significant relationship between the gender differences and neither sources of stress nor coping strategies, women were found to be more stressed and consequently had more coping strategies. This could be interpreted to mean that female referees had to fight more to persevere in refereeing rugby in Kenya since the activity was male dominated.

Findings from this study showed that the experience of the referees had an impact on sources of stress but did not have an influence on coping skills. The more experienced referees were found to be more stressed. This was interpreted to mean that they received pressure from personal and officiating circumstances surrounding them. However, more experience did not result to more coping skills according to this study. It was therefore concluded that prolonged exposure to stress of officiating rugby matches did not make the referees better copers.

This study established that there was a significant relationship between sources of stress and coping strategies. Therefore, the more stressed referees were, the more coping skills they developed.

6.3 Recommendations

This research study recommends the following strategies to increase numbers and improve quality of refereeing rugby in Kenya.

6.3.1 Recommendations for practice

i. Though referees coped actively with stress, referee education curriculum designers should continue focusing on stress associated to refereeing and its
potential consequences such as burnout and dropping out since stress in officiating sports cannot be eliminated.

ii. Training of referees should be more practical-based focusing on the referees’ performance to assist them cope better with performance related stress which affects them the most.

iii. Since Kenyan referees are very keen about their performance, controlled and structured feedback mechanism should be sustained to motivate them to continue officiating.

iv. Age, gender and experience should not be emphasized as criteria to recruit and appoint referees because none of them led to better coping skills.

6.3.2 Recommendations for Policy

i. The Kenya Rugby Union should ensure that recruitment and career pathway for referees focus on talent identification since age, gender and experience do not lead to better coping skills which are essential in preventing burnout and early termination of referees.

ii. Since referees are very concerned about their performance and cope actively with officiating stress, the Kenya Rugby Union should base referee training on technical aspects of refereeing and performance analysis.

iii. The Kenya Rugby Union should conduct tailor-made courses for female referees to train them on managing pressure related to officiating male dominated sports.
6.3.3 Recommendations for further Research Studies

To improve on assessing the sources of stress and coping strategies of active rugby referees in Kenya and based on the findings of the study, the researcher makes the following suggestions for further research:

i. Explore other factors that may influence the perceived sources of stress and coping strategies of active rugby referees in Kenya.

ii. Analyze the cost effectiveness of various stress coping mechanisms to the ordinary Kenyan referees.

iii. Carry out studies on coaches, fans and players role in causing stress to referees.

iv. Carry out a study to establish factors contributing to the current interest in refereeing rugby union matches in Kenya.

v. Carry out a study to assess impact of the referees’ organization as a source of stress and as a coping mechanism among rugby union referees in Kenya.
REFERENCES


APPENDICES

APPENDIX A: PERMISSION LETTER TO CONDUCT STUDY

Kenyatta University
P.O. Box 43844
Nairobi
Mobile: 0725235386
Email: jbmuaamba@gmail.com

4th September, 2016

Match Officials Administrator
Kenya Rugby Union
Nairobi

Dear Sir,

I am Johnbosco Muamba, a student at Kenyatta University, carrying out research to assess the stress and coping strategies of active rugby referees in Kenya.

This is to kindly request for your permission to administer questionnaires to your referees for my Master thesis. The target population of this study will be all active rugby referees currently registered with the Kenya Rugby Referees Society and, officiating the current season. The study will employ questionnaires for the purpose of data collection.

I am looking forward to a positive response from you.

Sincerely,

Johnbosco Kioko Muamba
APPENDIX B: INFORMED CONSENT LETTER TO RUGBY REFEREES.

My name is Johnbosco Kioko Muamba. I am a Masters student from Kenyatta University conducting a study on “Stress Levels and Coping Strategies of Active Rugby Union Referees in Kenya”. The information may be used by the Kenya Rugby Union and the Kenya Rugby Referees Society to design effective stress intervention mechanisms for rugby referees in Kenya.

Procedures to be followed

Participation in this study will require that you respond to the questionnaire attached, in your capacity as an active rugby referee. You have the right to refuse participation in this study. You will continue officiating matches in Kenya whether you agree to join the study or not and your decision will not change the relationship you have with neither the Kenya Rugby Referee Society nor the Kenya Rugby Union.

Please remember the participation in this study is voluntarily. You may ask questions related to the study at any time.

You may refuse to respond to any questions and you may withdraw from the interview at any time. You may also stop being in the study at any time without any consequences to your refereeing career.

Discomforts and Risks

If you feel uncomfortable or under any form of risk to respond to any part of this questionnaire, you may refuse to answer the questions if you so choose.
Benefits
If you participate in this study, you will help us to learn the sources of stress and coping strategies of active rugby referees in Kenya with a view of establishing the relevant stress intervention mechanisms for the rugby referees.

Confidentiality
The researcher would like to assure you of utmost confidentiality in handling the information you provide. Your name will not be recorded on the questionnaire. Everything will be kept private.

Contact Information
If you have any questions you may contact Dr. Nkatha Muthomi, Supervisor 1, on 0720862113 or Dr. David Muigai Supervisor 2, on 0729439475 or the Kenyatta University Ethical Review Committee Secretariat on chairman.kuerc@ku.ac.ke, secretary.kuerc@ku.ac.ke, secretariat.kuerc@ku.ac.ke

Participant’s statement
The above information regarding my participation in the study is clear to me. I have been given a chance to ask questions and my questions have been answered to my satisfaction. My participation in this study is entirely voluntary. I understand that my records will be kept private and that I can leave the study at any time. I understand that I will still maintain the same treatment from the Kenya Rugby Referees Society and the Kenya Rugby Union whether I decide to leave the study or not and my decision will not change
my relationship with neither the Kenya Rugby Referee Society nor the Kenya Rugby Union now nor in future.

Name of Participant ………………………………………………………………………………….…………………

__________________________________________ __________________________

Signature or Thumbprint Date

**Investigators statement**

I, the undersigned, have explained to the volunteer in a language s/he understands, the procedures to be followed in the study and the risks and benefits involved

Name of Interviewer ………………………………………………………………………………….…………………

__________________________________________ __________________________

Signature or Thumbprint Date
APPENDIX C : QUESTIONNAIRE

QUESTIONNAIRE NUMBER : .................................................................

SECTION I

DEMOGRAPHIC QUESTIONNAIRE

Please tick the most appropriate response that applies to you in the blank space provided.

I. Background information

1. Sex
   Female [ ]  Male [ ]

2. Age
   Please tick (√) the appropriate box
   - 18 – 27 years
   - 27 – 36 years
   - 36 – 45 years

3. Please indicate your refereeing experience by ticking the appropriate box
   - Less than 5 years
   - Less than 10 years
   - Between 10 and 20 years
   - Over 20 years
SECTION II :

PART A: STRESS LEVELS QUESTIONNAIRE

In a scale of 1 to 5: 1(Not at all), 2(Rarely), 3(Sometimes), 4(Often), 5(Always) respond to the following items.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I would not want to fail as a referee</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>2</td>
<td>I find it difficult to balance between refereeing activities and my other commitments</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>3</td>
<td>I aim to be ranked higher than my colleague referees</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>4</td>
<td>I receive verbal abuse from fans while refereeing</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>5</td>
<td>I receive verbal abuse from players while refereeing</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>6</td>
<td>I receive verbal abuse from coaches while refereeing</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>7</td>
<td>I encounter physical aggression</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>8</td>
<td>Refereeing demands differ from one competition to another</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>9</td>
<td>I am careful with the decisions I make towards the end of the match</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>10</td>
<td>A close score margin during a match am officiating means I be more careful with my calls</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>11</td>
<td>I aim to be accurate with the calls I make during a game</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>12</td>
<td>Players verbally react to calls I make</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>13</td>
<td>Coaches verbally react to calls I make</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>14</td>
<td>Fans verbally react to calls I make</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>15</td>
<td>Going into a match, I am concerned about the level of</td>
<td>1 2 3 4 5</td>
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<td></td>
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<td>---</td>
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</tr>
<tr>
<td>16</td>
<td>Going into a match, I am concerned about the intensity of play</td>
<td>1</td>
</tr>
<tr>
<td>17</td>
<td>Going into a match, I am concerned about what is at stake for the teams</td>
<td>1</td>
</tr>
<tr>
<td>18</td>
<td>After a wrong call / poor performance, I find myself thinking about it.</td>
<td>1</td>
</tr>
<tr>
<td>20</td>
<td>I feel that refereeing is not accorded the same status as coaching and playing</td>
<td>1</td>
</tr>
<tr>
<td>21</td>
<td>Other parties including media, fans, players and coaches discuss referees’ performances.</td>
<td>1</td>
</tr>
<tr>
<td>22</td>
<td>I spent a considerable amount of time doing refereeing related activities</td>
<td>1</td>
</tr>
<tr>
<td>23</td>
<td>The traveling involved in refereeing bothers me</td>
<td>1</td>
</tr>
<tr>
<td>24</td>
<td>Going to a venue am concerned about the team at home</td>
<td>1</td>
</tr>
<tr>
<td>25</td>
<td>Going to a venue am concerned about behaviour of fans</td>
<td>1</td>
</tr>
<tr>
<td>26</td>
<td>Going to a venue am concerned about the type of fixture</td>
<td>1</td>
</tr>
<tr>
<td>27</td>
<td>I am worried before allocations are released</td>
<td>1</td>
</tr>
<tr>
<td>28</td>
<td>Being assessed while refereeing increases pressure to perform.</td>
<td>1</td>
</tr>
<tr>
<td>29</td>
<td>I feel that the physical fitness requirements for officiating the current game are a challenge to me.</td>
<td>1</td>
</tr>
<tr>
<td>30</td>
<td>In most cases, I am relied upon to set standards in</td>
<td>1</td>
</tr>
</tbody>
</table>
Suffering an injury would make me worried about the opportunities am likely to miss.

I fear advancement in age will force me out of refereeing

<table>
<thead>
<tr>
<th>PART B: STRESS COPING STRATEGIES QUESTIONNAIRE</th>
</tr>
</thead>
<tbody>
<tr>
<td>In a scale of 1 to 5: 1(Not at all), 2(Rarely), 3(Sometimes), 4(Often), 5(Always) respond to the following items.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>To achieve my career goals in refereeing</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>I plan</td>
</tr>
<tr>
<td>B</td>
<td>I focus on what I can control</td>
</tr>
<tr>
<td>C</td>
<td>I rely on the union’s / society’s support</td>
</tr>
<tr>
<td>D</td>
<td>I seek information</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>When other commitments such as family, work and studies interfere with my refereeing activities:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>I plan</td>
</tr>
<tr>
<td>B</td>
<td>I find out what others do / did</td>
</tr>
<tr>
<td>C</td>
<td>I rely on support from friends and relatives</td>
</tr>
<tr>
<td>D</td>
<td>I feel like giving up refereeing</td>
</tr>
<tr>
<td>E</td>
<td>I do nothing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Before a match:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>I perform a set routine of activities</td>
</tr>
<tr>
<td>B</td>
<td>I engaged in positive self-talk</td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>C</td>
<td>I pray that my performance will be good</td>
</tr>
<tr>
<td>D</td>
<td>I play the game in my mind and imagine what is likely to happen</td>
</tr>
<tr>
<td>E</td>
<td>I try to think of other things than dwell on my performance</td>
</tr>
<tr>
<td>F</td>
<td>I do nothing</td>
</tr>
</tbody>
</table>

4 **When I encounter verbal or physical abuse**

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<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>I abuse / fight back</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>I make fun about it</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>C</td>
<td>I do not take the aggressors seriously</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>D</td>
<td>I feel like giving up refereeing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

5 **When players, coaches and fans protest my calls**

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>I concentrate on what I have to do next</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>I explain why I made the call</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>C</td>
<td>I feel bad</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>D</td>
<td>I try to avoid decisions that may cause them to protest</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>E</td>
<td>I ignore them</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>F</td>
<td>I feel like giving up refereeing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

6 **When my performance is criticised by other parties**

<p>| | | | | | |</p>
<table>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>I review my performance</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>I treat it as part of refereeing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>C</td>
<td>I conclude that the critics are unfair</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>D</td>
<td>I argue back</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>E</td>
<td>I ignore</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>E</td>
<td>I feel like giving up refereeing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>When I make an error while refereeing or after a poor performance</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>---</td>
<td>---------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>I see it as an opportunity to learn</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>I talk to other match officials about it</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>C</td>
<td>I seek the company and comfort of my friends and /or family</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>D</td>
<td>I blame myself</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>E</td>
<td>I remind myself that I did my best</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>F</td>
<td>I remind myself of all the good games have had</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>G</td>
<td>I make fun out of it</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>H</td>
<td>I try to think of other things than dwell on it</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I</td>
<td>I go out and have fun</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>J</td>
<td>I sleep</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>K</td>
<td>I consume a drug e.g. drink alcohol, smoke etc</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>L</td>
<td>I ignore</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>M</td>
<td>I feel like giving up refereeing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>After a match</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>I perform a set routine of activities</td>
</tr>
<tr>
<td>B</td>
<td>I chat with coaches, players and club officials</td>
</tr>
<tr>
<td>C</td>
<td>I prefer not to hang around the venue</td>
</tr>
</tbody>
</table>
## APPENDIX D: KRU DISTRICTS

<table>
<thead>
<tr>
<th>KRU DISTRICT 1</th>
<th>KRU DISTRICT 2</th>
<th>KRU DISTRICT 3</th>
<th>KRU DISTRICT 4</th>
<th>KRU DISTRICT 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bungoma County</td>
<td>Homa Bay County</td>
<td>Baringo County</td>
<td>Trans Nzoia County</td>
<td>Isiolo County</td>
</tr>
<tr>
<td>Busia County</td>
<td>Kisii County</td>
<td>Bomet County</td>
<td>Turkana County</td>
<td>Lakiipda County</td>
</tr>
<tr>
<td>Kakamega County</td>
<td>Kisumu County</td>
<td>Egyo Marakwet County</td>
<td>Lasin Gishu County</td>
<td>Nyandarua County</td>
</tr>
<tr>
<td>Vihiga County</td>
<td>Migori County</td>
<td>Kericho County</td>
<td>West Pokot County</td>
<td>Nyeri County</td>
</tr>
<tr>
<td></td>
<td>Nandi County</td>
<td>Nakuru County</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nyamira County</td>
<td>Narok County</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Siaya County</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KRU DISTRICT 6</td>
<td>KRU DISTRICT 7</td>
<td>KRU DISTRICT 8</td>
<td>KRU DISTRICT 9</td>
<td></td>
</tr>
<tr>
<td>Embu County</td>
<td>Kiifi County</td>
<td>Kajiado County</td>
<td>Garissa County</td>
<td></td>
</tr>
<tr>
<td>Kiambu County</td>
<td>Kiambu County</td>
<td>Kiambu County</td>
<td>Mandera County</td>
<td></td>
</tr>
<tr>
<td>Kiambu County</td>
<td>Lariu County</td>
<td>Machakos County</td>
<td>Marsabit County</td>
<td></td>
</tr>
<tr>
<td>Meru County</td>
<td>Mombasa County</td>
<td>Malapaci County</td>
<td>Samburu County</td>
<td></td>
</tr>
<tr>
<td>Murang'a County</td>
<td>Taita Taveta County</td>
<td>Nairobi County</td>
<td>Voi County</td>
<td></td>
</tr>
<tr>
<td>Tharaka Nithi County</td>
<td>Tana River County</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# APPENDIX E: DATA COLLECTION

<table>
<thead>
<tr>
<th>DATE</th>
<th>KRU DISTRICTS TARGETED</th>
<th>COUNTY VISITED</th>
<th>NUMBER OF QUESTIONNAIRES RETURNED</th>
</tr>
</thead>
<tbody>
<tr>
<td>17/06/2017</td>
<td>3 and 4</td>
<td>Nakuru</td>
<td>15</td>
</tr>
<tr>
<td>24/06/2017</td>
<td>1 and 2</td>
<td>Kakamega</td>
<td>15</td>
</tr>
<tr>
<td>1/07/2017</td>
<td>7</td>
<td>Mombasa</td>
<td>5</td>
</tr>
<tr>
<td>8/07/2017</td>
<td>5 and 6</td>
<td>Meru</td>
<td>15</td>
</tr>
<tr>
<td>15/07/2017</td>
<td>8</td>
<td>Nairobi</td>
<td>30</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>80</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX F: COMMUNITY CONSIDERATIONS

FLYER

STRESS AND COPING STRATEGIES OF RUGBY REFEREES IN KENYA

Rugby referees have for a long time volunteered to officiate matches in Kenya, yet, refereeing as an activity is stressful. It is an activity whereby the work environment is often unfriendly, performance is publicly scrutinized, and decisions elicit long debates. Sources of stress linked to refereeing include personal, performance, environmental and organizational.

Stress has far-reaching consequences on health and private lives of referees. However, referees develop coping mechanisms to mitigate the stress caused by officiating.

As a community, it would be of great help if we understood our roles as far as both the sources of stress and coping mechanisms of the referees are concerned. This is will not only ensure that referees cope effectively but will also ensure more enjoyment and satisfaction for all parties involved in the game.

Let us all joins hands and support referees to provide quality levels of officiating.

Thank you!

Flyer distributed through authorization by Kenya Rugby Union
APPENDIX G: RESEARCH APPROVAL

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

FROM: Dean, Graduate School
DATE: 7th February, 2017
TO: Muamba Johnbosco Kiko
C/o Recreation & Sports Mgt. Department.

REF: H108/CE/23350/2012

SUBJECT: APPROVAL OF RESEARCH PROPOSAL

This is to inform you that Graduate School Board, at its meeting of 25th January 2017, approved your Research Proposal for the M.Sc. Degree entitled “Stress Levels and Coping Strategies of Active Rugby Union Referees in Kenya”.

You may now proceed with your Data collection, subject to clearance with the Director Ethics Office, Kenyatta University and Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking Forms per semester. The form has been developed to replace the Progress Report Forms. The Supervision Tracking Forms are available at the University’s Website under Graduate School webpage downloads.

Thank you.

28 MAR 2017

JACKSON LUVUSI
FOR: DEAN, GRADUATE SCHOOL

CC: Chairman, Recreation Management and Exercise Science Department

Supervisors:

1. Dr. Nkatha Muthoni
   C/o Recreation Management and Exercise Science Department
   Kenyatta University

2. Dr. David Mungai
   C/o Recreation Management and Exercise Science Department
   Kenyatta University

JL/rwm
Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR MUAMBA JOHNBOSCO KIKOKO – REG. NO. H108/CE/2385/2012

I write to introduce Mr. Muamba Johnbosco Kiko who is a Postgraduate Student of this University. He is registered for M.Sc degree programme in the Department of Recreation and Management and Exercise Science.

Mr. Kiko intends to conduct research for an M.Sc. Proposal entitled, “Stress Levels and Coping Strategies of Active Rugby Union Referees in Kenya”.

Any assistance given will be highly appreciated.

Yours faithfully,

MRS. LUCY N. MRAABIE
FOR: DEAN, GRADUATE SCHOOL

28 MAR 2017
KENYATTA UNIVERSITY
ETHICS REVIEW COMMITTEE

Fax: 8711242/8711575
Email: kuerc.chairman@ku.ac.ke
       kuerc.secretary@ku.ac.ke
       secretariat.kuerc@ku.ac.ke
Website: www.ku.ac.ke

Our Ref.: KU/ERC/APPROVAL/VOL.1 (68)

P. O. Box 43844,
Nairobi, 00100
Tel: 8710901/12

Date: 15th June, 2017

Johnbosco Kioko Muamba
Kenyatta University
P.O Box 438444-00100
Nairobi.

Dear Muamba,

APPLICATION NUMBER PKU/659/1739 “Stress Levels and Coping Strategies of Active Rugby Union Referees in Kenya.”

IDENTIFICATION OF PROTOCOL
The application before the committee is with a research topic Application Number:
PKU/659/1739 “Stress Levels and Coping Strategies of Active Rugby Union Referees in Kenya” Received on 10th May 2017 and approved on 14th June 2017.

1. APPLICANT
Johnbosco Kioko Muamba

2. SITE
Rugby Union Kenya.

4. DECISION
The committee has considered the research protocol in accordance with the Kenyatta University Research Policy (Section 7.2.1.3) and the Kenyatta University Review Committee Guidelines AND APPROVED that the research may proceed for a period of ONE year from 15th June, 2017.
ADVICE/CONDITIONS

i. Progress reports are submitted to the KU-ERC every six months and a full report is submitted at the end of the study.

ii. Serious and unexpected adverse events related to the conduct of the study are reported to this committee immediately they occur.

iii. Notify the Kenyatta University Ethics Committee of any amendments to the protocol.

iv. Submit an electronic copy of the protocol to KUERC.

When replying, kindly quote the application number above.
If you accept the decision reached and advice and conditions given please sign in the space provided below and return to KU ERC a copy of the letter.

DR. TITUS KAHIGA,
CHAIRMAN ETHICS REVIEW COMMITTEE

I ..........................................................................................................................accept the advice given and will fulfill the conditions therein.

Signature........................................................................................................ Dated this day of.........................................................2017.
NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Ref. No. NACOSTI/P/17/86326/16710

Johnbosco Kioko Muamba
Kenyatta University
P.O. Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on “Stress levels and coping strategies of active rugby union referees in Kenya,” I am pleased to inform you that you have been authorized to undertake research in all Counties for the period ending 28th April, 2018.

You are advised to report to the County Commissioners and the County Directors of Education, all Counties before embarking on the research project.

On completion of the research, you are expected to submit two hard copies and one soft copy in pdf of the research report/thesis to our office.


GODFREY P. KALERWA MSc., MBA, MKIM
FOR: DIRECTOR-GENERAL/CEO

Copy to:
The County Commissioners
All Counties.

The County Directors of Education
All Counties.
APPENDIX K: RESEARCH PERMIT

THIS IS TO CERTIFY THAT: JOHNBOSE KIKOMA MUNIBA of KENYATTA UNIVERSITY, 0-1000 Thika, has been permitted to conduct research in All Counties on the topic: STRESS LEVELS AND COPING STRATEGIES OF ACTIVE RUGBY UNION REFEREES IN KENYA for the period ending: 28th April, 2018

Permit No: NACSL_UP/17/06/326/16720
Date Of Issue: 28th April, 2017
Fee Recharged: Ksh 1000

Applicant’s Signature

Director General
National Commission for Science, Technology & Innovation

CONDITIONS:
1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do so may lead to the cancellation of your permit.
2. Government Officer will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two (2) hard copies and one (1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice.

REPUBLIC OF KENYA
National Commission for Science, Technology and Innovation
RESEARCH CLEARANCE PERMIT

Serial No: 13858

CONDITIONS: see back page
7th June, 2017

TO WHOM IT MAY CONCERN

Dear Sir / Madam,

RE: RESEARCH AUTHORISATION: JOHNBOSCO MUAMBA

Johnbosco Muamba, a student at Kenyatta University, registration number H108/CE/23350/2012 has been authorised to carry out research on the Stress Levels and Coping Strategies of Active Rugby Referees in Kenya.

Kindly accord him the necessary assistance.

Sincerely,

Vincent Maranga Chweya
Match Officials Administrator