



Athletes' religiosity: How it plays a role in athletes' anxiety and life satisfaction



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Many studies related to religious and sports issues have been carried out. However, there are limited studies, especially those related to religiosity, anxiety and life satisfaction. To cope with this situation, this study aims to: (1) assess the religiosity, anxiety and life satisfaction of athletes; (2) determine the role of gender and the type of sport in those constructs and (3) establish the correlations between the constructs. The study involved 244 elite athletes from Papua province of Indonesia, with an average age of 22.2 years. The athletes were from a variety of sports, either individual or team sports. The religiosity, anxiety and life satisfaction were measured using Spirituality in Sports Test (SIST), Sport Anxiety Scale-2 (SAS-2) and Satisfaction with Life Scale (SWLS), respectively. One-way analysis of variance (ANOVA) was used to assess the association between explanatory variables (gender and type of sport) and all those three constructs. Path analysis was used to determine the correlations between the constructs. This study's data suggested that both gender and the type of sport are associated significantly with the level of anxiety and life satisfaction of athletes but not with athlete religiosity. There is a strong and direct effect of religiosity on anxiety and on the happiness in life (life satisfaction). The higher the level of religiosity of the athletes, the happier their life is perceived and the lower the level of the anxiety. In conclusion, this study reveals that individual sport athletes and female athletes tend to have higher levels of anxiety and lower life satisfaction. In addition, religiosity has a direct effect on anxiety and life satisfaction of the athletes. Therefore, religious values might need to be internalised during the training of athletes to reduce the anxiety during the competitions.

Contribution: This study provides a new insight into the role of religiosity in anxiety and life satisfaction of athletes. This study also identifies the groups of athletes that are prone to have higher anxiety and therefore should be concerned and targeted. The findings of this study could be used as a complement strategy to increase the athletes' happiness and to reduce the anxiety during the coaching and training processes in order to be able to achieve targeted results in a competition.

Keywords: religiosity; anxiety; elite athlete; life satisfaction; spirituality; sport psychology.

Introduction

The study of religiosity started in the 1960s by psychological scientists when they were assessing its relationship with the aspects of aggression, prejudice, gender and other factors (Paloutzian & Park 2005). Experts argue that religiosity has an important effect and role in various aspects of human life (Hood, Hill & Spilka 2009; Peterson & Seligman 2004; Zinnbauer & Pergament 2005). However, studies on religiosity in sports were only carried out in the 1990s (Flower 2017). It is obvious that sports are closely related to religiosity because history bears testimony to the fact that the forerunner of the Olympics was part of a religious festival in Greece (Amir & Lesmawati 2016).

There is scientific evidence that spirituality also contributes to the performance of athletes in addition to physiological factors (Flower 2017). A study found that spirituality was identified as an important factor in improving athletes' performance on the field (Roychowdhury 2019) because it can help overcome the fear (stress or anxiety) of the pressure during the competition (Hood et al. 2009). Scientists are of the view that athletes who have high religiosity actually believe in the role of God in various aspects of their lives, including during training or matches (Baker 2018). These conditions, ideally, will make athletes feel calmer, happier and more peaceful.

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Although the topic of religion has begun, conceptual debates about 'spirituality' and 'religion' still often occur. The two terms are also often used interchangeably (Roychowdhury 2019) including in scientific publications (Davis, Kerr & Kurpius 2003; Pargament 1999). Pargament (1999:13) mentions that 'spirituality is the heart and soul of religion'. Although the two concepts can be explained differently, in fact they overlap (Davis et al. 2003). The two terms are not contradicted and are used interchangeably in previous studies (Jackson & Wood 2018; Zwingmann, Klein & Büssing 2011). Therefore, both terms will be used interchangeably in this article.

Recently, studies related to religion, psychology and sports have grown rapidly (Jirásek 2015; Sarkar, Hill & Parker 2014; Watson & Parker 2013) because of the emerging view that religion plays an important role in the life of athletes (Storch et al. 2001). In addition, the trend towards secularism, especially in the United States of America and United Kingdom, has attracted many scientists to explore the topic (Trothen 2019). Scientists identify that religion is an important factor to consider in the development of science (Gómez, Cordero & Mohand 2019). In addition, the values that exist in religion and culture are believed to have an effect on the level of community participation in sports (Laar, Shi & Ashraf 2019). In fact, in a broader scope, sports and religion are seen as important instruments in efforts to develop, unite and make peace in the world (Jona & Okou 2013). These suggest that the issues of religiosity, psychology and sports or athletes are interesting and challenging to be explored more comprehensively.

Several reports indicate that athletes have a higher religiosity than non-athletes (Elyasi et al. 2011; Storch et al. 2001, 2004). Generally, athletes believe that religiosity is very important in relation to their career in sports (Roychowdhury 2019). This is because the religiosity that exists in athletes will make them feel more optimistic and confident when competing on the field and with their religiosity, athletes could control their psychological conditions, such as anxiety and stress because of competition, so that they are in the expected zone (Storch et al. 2001).

Howe and Parker (2014) examined the importance of the role of religiosity in athletes with disabilities. Najah, Farooq and Rejeb (2017) investigated the role of religion in mental health and athlete injury. Storch et al. (2003) and Nikbakhsh (2021) examined the religiosity of athletes who use drug. Gonçalves et al. (2015) investigated the impact of religiosity on athletes' mental health (anxiety). Park (2000) examined how athletes used prayer rituals to deal with stress. Hagan (2021) investigated discrete emotions and unaccustomed religious coping. Despite their being widely studied, previous studies have shown many limitations. Francis and Lester (1997) investigated religiosity with happiness but not in the context of sport. In fact, the dimension of happiness is believed to contribute to the performance of athletes on the field (Calleja-González et al. 2018; Goswami & Sarkar 2016; Savardelavar & Arvin 2012). Although sport and religiosity have been

discussed in various perspectives (Ellis & Weir 2020), research assessing the relationship between religiosity or spirituality and well-being in sport performance is still limited. Another limitation is that, in general, studies have been conducted in Western Hemisphere (America and Europe), while in Asia, more specifically in Indonesia, this has not been widely studied. The perspective from the east (Asia) is important to provide more complete picture related to issues of religiosity and sport.

To date, to the best of the authors' knowledge, there is no study that comprehensively explores aspects of religiosity, anxiety and subjective well-being in athletes of various sports and genders. This study was conducted by exploring the religiosity, anxiety and life satisfaction of athletes in Indonesia with three specific aims: (1) to assess the religiosity, anxiety and life satisfaction of athletes; (2) to assess the associations of gender and the type of sports in religiosity, anxiety and life satisfaction of athletes; and (3) to assess the correlations between religiosity, anxiety and life satisfaction of athletes.

Literature review

The term 'religiosity' has been interpreted variously by experts. This is not surprising because religiosity is a difficult term to be defined (Gill, Minton & Myers 2010). Sholihin et al. (2022) stated that this happens because the definition given will tend to depend on the assumptions that it is according to the religious perspective adopted. That is the reason why there are several different views commonly known. According to Holdcroft (2006), there are two reasons as to why religiosity becomes difficult to define: (1) the uncertainty of the meaning of the root word of religiosity, particularly in English and (2) the approach to religiosity, which is multi- and even inter-disciplinary because of the significant interests of scholars in studying religiosity across academic fields. These two factors also become the markers for why the dimensions of religiosity differ. Because there are various definitions of religiosity, there have been extensive studies on this subject. In more specific contexts, such as in sports, explanations given by Dillon and Tait (2000) are significantly helpful, that is, spirituality or religiosity in sports can be defined as experiencing the presence of a power, a force, an energy or a God close to the athletes. However, in more general contexts, the authors agree with what Abdel-Khalek and Lester (2017) stated that religiosity refers to a system of personal beliefs, values and various religious practices.

According to Karageorghis and Terry (2011), anxiety is a condition that naturally exists in humans, and therefore every normal person experiences anxiety. Similarly, Maksum et al. (2011) stated that anxiety is a response to certain threatening conditions and this is normal for a person to happen. Although it is believed to be a normal condition that occurs in a person, Cox (2012) stated that the emergence of anxiety is a negative response, which is a stressful condition because of the burden or overpressure that a person bears.

However, according to Jannah (2016), the anxiety felt by a person can be volatile. This means the intensity and frequency change according to the conditions encountered. Several conditions make a person extremely anxious but there are also those that make a person not anxious and this is often called 'state anxiety' (Putra & Guntoro 2022). Furthermore, there are also certain persons who tend to feel anxious in every situation or condition and this is called 'trait anxiety' in the literature (Putra et al. 2021). Although in the literature on sports psychology there are various explanations of anxiety, the present authors agree with what is mentioned by Martens, Vealey and Burton (1990) that anxiety is a feeling of worry, anxiety and unease caused by the view that the match is a dangerous threat.

Life satisfaction might be defined as a feeling of happiness and becoming satisfied with life (Maddux 2018). There are two keywords in the definition of life satisfaction, namely, 'happiness' and 'well-being'. Individuals who are considered satisfied with life feel happiness and a sense of well-being. Correspondingly, Sholihin et al. (2022) stated that individual life satisfaction can be described as the feeling of happiness possessed by individuals when they achieve the desired level of well-being. Maksum and Indahwati (2021) mentioned that the variable 'life satisfaction' refers to the extent to which individuals feel happy and free from the pressures of life that cannot be controlled. In general, Huebner (2004) stated that life satisfaction has two models: unidimensional and multidimensional. The unidimensional model reveals the satisfaction of a person's life is more general. In unidimensional measurements, the items used are free of context so that the measure of satisfaction is more global. In contrast, in the multidimensional model, the assessment of the satisfaction of life is carried out on several dimensions such as the dimensions of family, friends and living environment.

A study conducted by Abdel-Khalek (2011) found that there was a significant negative relationship between religiosity and anxiety, whereas religiosity had a positive correlation with life's happiness. However, the study was conducted out of sports or athletes' contexts. From a sports perspective, anxiety is perceived as a significantly important psychological construct and determines the outcome of a match (Putra & Guntoro 2022). Studies conducted in Indonesia showed that individuals who regularly did physical activity had a better ability to manage stress and had higher life happiness compared with the inactive group (Maksum 2021; Maksum & Indahwati 2021). Meta-analysis studies regarding religiosity and life satisfaction found that religiosity variables have a positive correlation with life satisfaction (Sholihin et al. 2022). However, there is no study that explores the correction of religiosity, anxiety and life satisfaction in the context of the sport. This reason motivated the present authors to conduct this study where the associations between religiosity, anxiety and life satisfaction were assessed among athletes from different types of sports in Indonesia.

Methods

Study setting

The authors performed a cross-sectional study between 09 and 30 August 2021 to assess the religiosity, anxiety and life satisfaction of Papuan athletes during intensive training camp for the 20th National Sports Week 2021. The National Sports Week (known as 20th *Pekan Olahraga Nasional* [PON]) was held between 02 and 15 October 2021 in Indonesia. The event was conducted during the coronavirus disease 2019 (COVID-19) pandemic in four different cities or regencies in Papua province: Jayapura City, Jayapura, Merauke and Mimika. *Pekan Olahraga Nasional* is the biggest multi-sport event in the country that is held every four years (Kogoya, Guntoro, & Putra 2022).

The setting of the study is Papua province, a province with 547 islands and the largest area of 31 9036.05 km² or 16.64% of the total land area of the country (BPS 2022). Based on the Human Development Index (HDI), the province is at the bottom, with an average score of 60.63, in the last three years, far below the national average of 72.05 (BPS 2022). The province has a major security issue because of the actions of the armed terrorist criminal group (KKTB), which has been greatly disturbing security and public order for a long time.

Study participants

The study participants were elite Papuan athletes who joined the intensive training camp in Papua. The participants were recruited purposively to include athletes from both individual and team sports. In this study, aerobics, tennis, shooting, Muay Thai, archery, wall climbing, swimming, track and field, rowing and kempo were classified as individual sport, while rugby, baseball or softball, soccer, handball, basketball and volleyball were classified as team sport.

Study instrument

A set of validated questionnaires was used in this study. To assess the level of anxiety of athletes, the Sport Anxiety Scale-2 (SAS-2) developed by Smith et al. (2006) was used. Sport Anxiety Scale-2 has been tested in the context of Indonesian athletes previously (Putra et al. 2021). The instrument is widely used internationally to measure the anxiety level of elite athletes other than the Competitive State Anxiety Inventory-2 Revised (CSAI-2R) (Putra & Guntoro 2022). Sport Anxiety Scale-2 contains 15 statements, which are divided into three subscales: somatic anxiety (five items), worry (five items) and concentration disruption (five items). The alternative responses for each statement were in a four-point Likert scale consisting of very often, often, sometimes and never.

The athlete's religiosity was measured by using the Spirituality in Sports Test (SIST), which was developed

by Dillon and Tait (2000) and then revised in 2014 (Spittle & Dillon 2014). Spirituality in Sports Test consists of 10 statements with six alternative answers using the Likert scale and moving from never (1) to always (6). Spirituality in Sports Test has been adapted to Indonesian and it was found that the Indonesian version of SIST has a validity value ranging from 0.56 to 0.81, with a reliability value ranging from 0.81 to 0.91 (Putra & Guntoro 2022).

The construct of life satisfaction was assessed using with the Satisfaction with Life Scale (SWLS) (Diener, Emmons & Griffin 1985). This scale consists of five statements with seven alternative answers (Diener et al. 1985). However, in the Indonesian version it is simplified into five answer choices, from very unsuitable (1) to very suitable (5) (Afiatin et al. 2016; Wandik, Guntoro & Putra 2021). The value of the validity of the Indonesian version of SWSL is 0.553–0.686, with the reliability level of 0.828 (Akhtar 2019).

Study procedure

This research was conducted in the midst of the COVID-19 pandemic. Therefore, to comply with health protocols made by the government and to suppress the spread of the COVID-19, data collection was conducted online. The study instruments were prepared using Google Forms and then the links were sent to the athletes through their registered phone numbers. On the first page, an overview of the study, objectives and benefits were provided and each participant was asked for consent before participating in the study. Participation in the survey was voluntary and anonymous and no financial incentive was offered.

Data analysis

To assess the associations of age and the type of sport in religiosity, anxiety and life satisfaction of athletes, a one-way analysis of variance (one-way ANOVA) was used. To determine the correlations between the constructs of religiosity, anxiety and life satisfaction, a Pearson's product-moment correlation analysis was used. The correlation coefficients were classified into weak, moderate, strong, very strong and extremely strong based on the coefficient thresholds of 0.1, 0.3, 0.5, 0.7 and 0.9, respectively, and based on a previous study by Hopkins et al. (2009). To determine the direct and indirect effects of religiosity and life satisfaction on anxiety, path analysis was used. All data analyses were performed using IBM SPSS version 26 (IBM Corp, Armonk, NY, USA) and IBM Amos version 22 (SPSS Inc, Chicago, IL, USA).

Results

Participants' characteristics

The authors received and analysed the data of 244 elite Papuan athletes out of 385 athletes, thus yielding a 63.4% completion rate. The average age of the participants was 22.2 years (standard deviation [SD] \pm 4.7 years), with 138 men and 106 women. The athletes were from 16 different sports: martial arts (32, 16.8%), game sport (121, 20.4%), precision sport (41, 13.1%) and measured sport (50, 49.6%). There were 132 athletes of individual sports and 112 athletes of team sports. Based on religion, 173 (70.9%) were Christians, 64 (26.2%) were Muslims and 7 (2.8%) were Hindus.

The role of gender and the type of sports in religiosity, anxiety and life satisfaction

The results of ANOVA showing the associations of gender and the type of sports in religiosity, anxiety and life satisfaction are presented in Table 1.

This study's data suggested that athlete's gender was associated significantly with anxiety ($F = 29.664$; $p < 0.001$) and life satisfaction ($F = 5.367$; $p = 0.021$) (Table 1). Gender has no association with athletes' religiosity. The results of this study suggested that female athletes had higher anxiety scores than their male counterparts (32.72 ± 12.19 vs. 25.51 ± 8.72). In addition, female athletes had lower mean scores of life satisfaction than male athletes (15.77 ± 3.55 vs. 16.83 ± 3.53), indicating that male athletes were more satisfied in their life.

Furthermore, this study found that the type of sport (individual vs. team) was associated significantly with the level of anxiety ($F = 4.361$; $p = 0.038$) and life satisfaction ($F = 5.961$; $p = 0.015$) (see Table 1). The type of sport had no association with religiosity. Athletes who were in individual sports had a higher level of anxiety than those who were in team sports (mean scores 29.97 ± 11.6 vs. 27.08 ± 9.5). With regard to life satisfaction, the mean scores for the athletes in team sports was higher (16.97 ± 3.32) than that of individual sports (15.86 ± 3.71), suggesting that those in team sports were more satisfied in their life.

Correlation between religiosity, anxiety and life satisfaction

This study's data indicated that there were significant correlations between religiosity, anxiety and life satisfaction (see Table 2). Religiosity was significantly correlated with

TABLE 1: Analysis of variance test results showing the associations of gender and type of sports in religiosity, anxiety and life satisfaction of the athletes ($n = 244$).

Variable	Gender		F	p	Type of sport		F	p
	Male ($n = 138$)	Female ($n = 106$)			Individual ($n = 132$)	Team ($n = 112$)		
Religiosity	40.51 \pm 7.66	39.39 \pm 9.58	1.043	0.308	39.58 \pm 9.01	40.55 \pm 7.98	0.792	0.374
Anxiety	25.51 \pm 8.72	32.72 \pm 12.19	29.664	<0.001**	29.97 \pm 11.60	27.08 \pm 9.59	4.361	0.038*
Satisfaction	16.83 \pm 3.53	15.77 \pm 3.55	5.367	0.021*	15.86 \pm 3.71	16.97 \pm 3.32	5.961	0.015*

*, Significant at the 0.05 level; **, Significant at the 0.001 level.

TABLE 2: Correlation test results among variables.

Variable	Minimum	Maximum	Mean	Correlation coefficient (<i>r</i>)			
				Religiosity	Anxiety	Satisfaction	Age
Religiosity	11	50	40.02 ± 8.54	1	-0.655***	0.522***	0.161*
Anxiety	15	57	28.64 ± 10.84	-	1	-0.544***	-0.212**
Satisfaction	7	25	16.37 ± 3.57	-	-	1	0.112
Age	17	45	22.25 ± 4.71	-	-	-	1

*, Significant at the 0.05 level; **, Significant at the 0.01 level; ***, Significant at the 0.001 level.

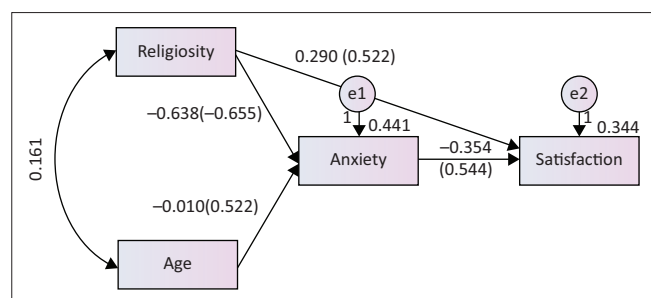


FIGURE 1: Path analysis model showing the corrections of age, religiosity, anxiety and life satisfaction of athletes. The figures in brackets are the correlation coefficients.

anxiety, with $r = -0.655$ ($p < 0.001$), indicating the higher the athletes' religiosity level, the lower the level of their anxiety and vice versa. The value of the correlation coefficient was classified as a strong correlation. There was a significant correlation between athletes' religiosity and life satisfaction, $r = 0.522$ and $p < 0.001$, with a strong category of correlation. This result suggested that the higher the level of religiosity of athletes, the higher the level of happiness will be. The data also suggested that anxiety was correlated negatively with life satisfaction of the athletes, $r = -0.544$ and $p < 0.001$ (Table 2), suggesting that if the athlete's anxiety score is high, the life satisfaction score will be low.

To gain a better understanding, the correlations of athletes' age with religiosity, anxiety and life satisfaction were also calculated. The data suggested that age was correlated positively with religiosity ($r = 0.161$, $p = 0.012$) and had significant negative correlation with anxiety ($r = -0.212$, $p = 0.001$). Furthermore, it was observed that the more mature the athletes, the higher the level of their religiosity. In contrast, the younger the athletes, the higher their anxiety level. Nevertheless, both of the correlations had weak coefficients. There was no correlation between age and happiness or life satisfaction.

The results of the path analysis showed that religiosity had a direct effect on anxiety and satisfaction and an indirect effect on anxiety through the satisfaction variable (Figure 1). Furthermore, age had a direct effect on anxiety but not on satisfaction. The results of the model testing indicated that the model fit the data with some parameters had values above 0.90 (goodness of fit indices [GFI] = 0.999, adjusted GFI = 0.994, chi-squared = 0.276 with $p > 0.05$).

Discussion

The results of the present study are summarised into two categories: (1) the results of the analysis of differences of

religiosity, anxiety and life satisfaction based on the type of sport and the gender of the athlete and (2) the results of the correlation between religiosity, anxiety and life satisfaction variables. For the first analysis, data suggest that the type of sport and gender are significantly associated with anxiety and life satisfaction but not with religiosity. The results of the correlation analysis show that athletes' religiosity has a negative correlation with anxiety and a positive correlation with life satisfaction in which religiosity has a direct effect on anxiety and an indirect effect on anxiety through the life satisfaction (happiness).

This study clearly indicates that the type of sport and gender are not associated with religiosity. No difference is found in the athlete's religiosity, suggesting that the athlete's level of religiosity is relatively equal. This is evidenced by the high average value of religiosity between male and female athletes, and between athletes in individual and team sports. The high religiosity of athletes in this finding is in line with the findings of previous studies conducted by Storch et al. (2001) and Elyasi et al. (2011), which found that athletes had a higher level of religiosity than non-athletes. However, other studies have found that there was a significant difference in the level of religiosity between male and female athletes in which female athletes had higher religiosity than male athletes (Bell, Johnson & Petersen 2009; Lyons 2013; Schultz 2009). In addition, based on the type of sport, the athletes who are in team sports have a higher level of religiosity (Elyasi et al. 2011).

In Indonesia, every athlete has the freedom to carry out their respective religious rituals and this is guaranteed and protected by the nation. An expert on constitutional law, Mahfud MD, explained that Indonesia is a religious nation-state (Ika 2018). The existence of the *Pancasila* (Indonesian Five Principles) and the Constitution of 1945, which are used as the ideology and basis of the nation, becomes the basis for every citizen to adhere to and carry out their respective religious beliefs. There is an interesting phenomenon in this context, for example, during the goal celebration of national football league, the players on a team celebrated by praying or giving thanks according to the teachings of their respective religions (Islam, Christianity and Hinduism). The moment went viral on social media and was widely discussed by international media (Payne 2017; Reinard 2017). This shows that there is a space of freedom for athletes to express and carry out religious rituals according to their religion.

In addition, socio-cultural differences, in particular with Western cultures, played a role in the differences in the

finding of this research and that of the previous studies. For Indonesian athletes, who adhere to eastern cultures, religion plays an important role in various aspects of life (Qorih 2018). It is difficult to find Indonesian athletes or citizens who do not have or do not believe in religion (atheism) and who adhere to secularism, because Indonesia is a religious nation-state (Ika 2018). On the other hand, the people in the United States of America and Europe have actually experienced a trend towards secularism (Trothen 2019) and atheism is seen as something that needs to be respected because it is part of everyone's rights. The data from the Indonesian Ministry of Religious Affairs show the percentages of the followers of Islam (86.70%), Christianity (7.60%), Roman Catholic (3.12%), Hinduism (1.74%), Buddhism (0.77%), Confucianism (0.03%) and religious beliefs (0.04%) (Indonesian Ministry of Religious Affairs 2022). This indicates that Indonesia is a religious nation-state (Ika 2018).

The data also suggest that anxiety level of the athletes is significantly different between genders. This finding confirms the previous findings that female athletes have higher anxiety levels than male athletes (Correia & Rosado 2019; Kristjánsdóttir, Erlingsdóttir & Saavedra 2018; Martens et al. 1990; O'Donoghue & Neil 2015). This is because there is an assumption that sports are related to strength, speed and skill and all of these are more inherent in the superiority of men over women (Dias, Cruz & Fonseca 2010). In addition, the nature of female athletes who tend to prioritise feelings in acting and making decisions is suspected to have contributed to the context of these findings. This is different from male athletes who use logic more when making decisions or determining attitudes. This study's data also suggest that athletes in individual sports tend to be more anxious than those in team sports. This is in line with the findings of previous studies (Correia & Rosado 2019; Dias et al. 2010; Singh, Singh & Singh 2014; Terry et al. 1996). The pressure that exists in individual sports will be borne by the athletes themselves, so the risk of experiencing anxiety is higher (Kirkby & Liu 1999). In contrast, athletes in team sports have friends in the field and this could minimise the risk of anxiety because there is support from other athletes.

In addition, data suggested that an athlete's happiness is influenced by gender and the type of sport and gender. This is in line with previous findings (Goswami & Sarkar 2016). Male athletes who are in team sports are more likely to perceive having a happy life compared with female athletes and athletes in individual sports.

In this study, it was confirmed that athletes' religiosity has a negative correlation with anxiety and a positive correlation with life satisfaction in which religiosity has a direct effect on anxiety and indirect effect on anxiety through the life satisfaction. This indicates that religiosity plays a vital role in athletes' life (Najah et al. 2017; Zinnbauer & Pergament 2005). The findings of this research indicate that athletes who have

a high level of religiosity tend to perceive their lives as happier, and the higher the athletes' spirituality, the lower the level of their anxiety. Experts agree that anxiety is a factor that determines the outcome of a match or competition (Correia & Rosado 2019; Mellalieu, Hanton & Fletcher 2009; Singh et al. 2014; Turkmen, Bozkus & Altintas 2013). No less important than the anxiety dimension, there is scientific evidence showing that athletes will be able to show their best performance when they have positive (happy) feelings (Calleja-González et al. 2018). This is reinforced by another study, which found that winning athletes had a higher level of happiness than losing athletes when measured before the match started (Savardelavar & Arvin 2012).

This study also shows that life satisfaction and anxiety have a strong and negative relationship. Further analysis showed that there was a significant relationship between the life satisfaction and anxiety of an athlete. This result is in line with a previous study conducted by Layard (2005). Averill (1997) stated that anxiety and happiness are contradictory emotional conditions, where anxiety is on the left pole (negative emotion) and happiness is on the opposite side (positive emotion). Happiness has positive emotional indicators such as joy and calm (Carr 2004); on the other hand, anxiety tends to be represented by conditions of worry, stress and impaired concentration (Smith et al. 2006). With this understanding, it is not possible for anyone to experience two emotional states – anxiety and happiness – at the same time because they are on opposite sides.

This study also provides evidence that athletes' age has a relationship with religiosity and anxiety (Table 2). Adult athletes tended to have a higher religiosity score than athletes who are younger in age and adult athletes had lower levels of anxiety than younger athletes. These results are in line with the study conducted by Rice et al. (2019) because adult athletes have more experience and tend to be more mature, both in thinking and acting, compared with younger athletes. A previous study also found that an athlete's age has a significant effect on his or her anxiety (Freire et al. 2020). However, it was found that age has no effect on life satisfaction or happiness.

With regard to the evidence presented, athletes' religiosity can be an extra concern of the coach in the coaching and training process. Improving and strengthening aspects of the athlete's religiosity are believed to contribute to minimising the excessive anxiety (Hood et al. 2009). In addition, with high spirituality, athletes will tend to perceive their lives to be happier and this will have a positive impact on them (Goswami & Sarkar 2016; Layard 2005). With controlled conditions of happiness and anxiety, it is very likely that athletes will be able to present the best performance during the match (Calleja-González et al. 2018; Correia & Rosado 2019; Mellalieu et al. 2009; Roychowdhury 2019; Savardelavar & Arvin 2012; Singh et al. 2014; Turkmen et al. 2013).

Although this study has attempted to comprehensively assess the religiosity, anxiety and happiness of athletes, it has some limitations. Firstly, even though the participants were elite athletes, they were not analysed based on their highest completion they have participated, for example, international, regional or national level. Secondly, the religiosity assessed in this study is limited to the sports field – habits in competitions and practices. In a more general context of life, athletes' religiosity is not covered. Based on these limitations, further research should be directed towards involving more athletes by analysing their levels (international, regional and national) and to include other spirituality or religiosity instruments that cover the general aspects of life.

Conclusions

Religiosity plays an important role in the lives of athletes. This study reveals that religiosity has a strong correlation with and a direct effect of athletes' anxiety level and an indirect effect through life happiness. The higher the level of athletes' religiosity, the happier their lives are perceived and the lower the level of their anxiety. In addition, athletes in individual sports and female athletes tend to have higher levels of anxiety and lower happiness in life when compared with male athletes and those in team sports. Therefore, in order to improve the performances of athletes, religiosity approach could be considered as one of the complement strategies, in particular for female athletes and those in individual sports during the coaching and training process.

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Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

T.S.G. contributed to the methodology, conceptualisation, formal analysis and writing of the original and final draft. M.F.P.P. contributed to data curation, investigation, validation and writing of the original and final draft.

Ethical considerations

This article followed all ethical standards for research without direct contact with human or animal subjects.

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Data availability

Data supporting the findings of this study are available from the corresponding author, T.S.G., upon reasonable request.

Disclaimer

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