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## Psychological Consequences of Sport Injury on Mental Well-being of Elite Athletes in Ibadan, Nigeria

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### Abstract

Injuries are an unavoidable and inevitable part of sport participation. Some injuries can be managed easily, while some disrupt and impose a threat on the mental health of the athletes. Some injuries heal on time, linger and some lead to transitioning from the sport. Either minor or major, an injury sustained does not only affect the physical well-being of the athletes but also their mental well-being. Little concern is given to the mental aspect of the outcomes of psychological consequences of sport injury. Therefore, the purpose of this study was to examine the psychological consequences of sport injury on the mental well-being of elite athletes in Ibadan, Nigeria. A descriptive survey research design was employed. The participants were a hundred (100) (Male=63, Female=37) elite athletes of Oyo State Sports Council purposively sampled from various sports. The instruments used for data collection were: The Perceived Stress Scale (PSS) Centre for Epidemiologic Studies-Depression Scale (CES-DS), Athletic Identity Measurement Scale (AIMS), Modified Revised UCLA Loneliness Scale (MRULS), Sport Injury Anxiety Scale (SIAS) and The Short-Form 8 (SF-8) Health Survey. The data collected were analysed using multiple regression to test the hypotheses. Results of the study showed that there was a significant joint contribution of psychological consequences of sport injury on mental well-being of elite athletes ( $F_{(5, 94)} = 110.272$ ,  $R = .924$ ,  $R^2 = .854$ , Adjusted  $R^2 = .851$ ,  $p < 0.05$ ). Psychological consequences factors of sports injury of stress ( $\beta = -.667$ ,  $t = -15.007$ ), depression ( $\beta = -.250$ ,  $t = -6.852$ ), isolation ( $\beta = -.197$ ,  $t = -6.065$ ) and fear of re-injury ( $\beta = -.210$ ,  $t = -4.152$ ) were significant, while loss of identity ( $\beta = -.050$ ,  $t = -1.316$ ,  $p > 0.05$ ) was not significant. It was therefore recommended that athletes, coaches, support staff among others should be educated on symptoms of mental health and coping resources to be employed and also, optimum mental health care supports should be rendered to the athletes.

**Keywords:** Sport injury, mental well-being, stress, depression, isolation, fear of re-injury, loss of identity

### Introduction

The mental health of athletes depends on various factors, one of which is their ability to cope with adversity in their sport such as serious sports injury. Sports injury can disrupt athletes' performance and affects their mental well-being as well. Mental health is significantly important concerning sport, with data indicating high rates of psychological distress and disturbance among athletes (Markser, 2011). Athletes experience mental health risk factors similar to non-athletes,

though health decline can also be associated with their sport engagement, as with concussion (Guskiewicz et al., 2007), overtraining syndrome (Peluso & deAndrade, 2005), or a crisis-transition (Stambulova, Alfermann, Statler, & Côté, 2009). Sports injury affects physical, psychological and social well-being of an athlete. The psychological effects that can result from an injury can range depending on the severity of the injury and an athletes' mental approach.

An athlete's reaction to injury can drastically affect their mental well-being outside of the sport which often translates to a hindered ability to function daily and an imbalanced emotional state (Olmedilla, Andreu, Ortín & Blas, 2008). When an athlete is injured, he exhibits higher levels of depression, lower self-esteem, negative emotional reactions and increased anxiety (Putukian, 2016). Injured athletes also exhibit decreased well-being, poor health-related quality of life, and increased fear-avoidance beliefs compared to their non-injured counterparts (Houston, Hoch, Van Lunen, & Hoch, 2017). Putukian (2016) elaborates on the struggle that athletes may endure when seeking care, stating that "athletes may be at greater risk for mental health issues in that they are less likely to seek treatment, maybe afraid to reveal symptoms, may see seeking counselling as a sign of weakness, are accustomed to working through the pain"

Stress can be regarded as an integral part of sport participation that can be linked, positively or negatively, not only to an athlete's performance but also his or her response to injury both immediately following the injurious event as well as throughout the rehabilitation process. The stress-injury model proposed by Andersen and Williams explains how stress not only contributes to injury, but can also increase time-loss and negative psychological health variables following injury (Weinberg & Gould, 2011; Williams & Andersen, 1998). Once an injury occurs, an individual's stress increases. Restriction from practice and/or physical activity, distance from the team, and healing time of the injury are just a few examples of how injuries have the potential to increase the stress levels of an athlete.

Studies have shown that negative life stress is positively and strongly correlated with injury and injury risk (Andersen, 1999; Lavallée & Flint, 1996). An athlete who suffers a time-loss injury and is unable to participate would likely experience increased negativity and psychological stress (Leddy, Lambert, & Ogles, 1994). According to the American College of Sports Medicine (2017), increased stress and depressed mood create negative feedback to the athlete in the recovery from injury and can impact treatment and outcomes. The finding the study by Ivarsson & Urban (2010) revealed that injured players reported a higher level of susceptibility to experience stress than non-injured players. The players with high-stress susceptibility possibly experienced a higher level of stress in potentially stressful situations, compared to players with a low level of stress susceptibility.

In the study of Fuqua (2017), there was a positive correlation between stress and negative affect. The researcher further found that stress, negative affect, depression, anxiety, and athlete burnout are all positively correlated. The relationship between these psychological health variables is not only statistically significant, but it is also clinically significant. If an athlete presents following an injury with an increased stress level, likely, other negative psychological health factors will also be elevated (Brewer, 1994; Galambos et al., 2005; Nippert & Smith, 2008; Williams & Andersen, 1998).

Depression which is one of the most prevalent mental health disorders in the world (Health, 2015) is a disorder that interferes with an individual's ability to work, sleep, eat, study, and generally enjoy life. Athletes who become injured and are no longer able to participate in sport have been shown to display increased signs and symptoms of depression (Brewer, 1993; Smith et al., 1990; Teychenne et al., 2008). Depressive symptoms can arise soon after the injury which could be associated with frustrations due to immobility, difficulties participating in everyday activities, and feelings of injustice and shock associated with the injury. According to Lavalley & Robinson (2007) and Schwenk et al., (2007), athletes may struggle with their changing bodies and depression associated with ongoing chronic pain resulting from injuries sustained during sporting careers.

In a study by Simon & Docherty (2014), it was found that current health-related quality of life (HRQoL) in former Division I athletes compared with non-athletes showed that the former group had lower HRQoL compared with the latter group. The former group athletes scored worse on the physical function, depression, fatigue, sleep disturbance, and pain interference PROMIS scales than non-athlete. Schwenk, et al (2007) concluded that while retired NFL players may not suffer from depression more than the general population, their depression was more associated with pain from sports-related injuries; and therefore, injuries sustained when playing may hurt their health which may then decrease their retirement experience.

Putukian (2016) reported that some student-athletes experience depression as a result of performance failure especially when sustaining significant injuries, such as knee injuries associated with time loss from sport, they can suffer both physically as well as emotionally with a decrease in their quality of life. A traumatic injury, particularly one that limits or ends sports participation, may trigger a new mental or emotional concern or exacerbate an existing mental health condition in a young athlete (Palisch & Merritt, 2018). "In a retrospective study by Putukian, (2016) on football players, 33% of injured athletes reported high levels of depressive symptoms. Depressed athletes and those under 'stress' are at an increased risk for injury and athletic performance is often impacted by emotional or mental health factors" (Putukian, 2016).

Athletic identity plays a significant role in determining the mental health of athletes. Elite athletes dedicate themselves to their chosen sport physically and mentally from a young age to achieve their athletic goals and due to this, they attribute a large proportion of their self-identity to the sporting version of themselves (Lally 2007; Grove, Lavalley & Gordon, 1997). An athlete with a high athletic identity may find participation in sport to be very important to them and may even have a difficult time identifying as anything other than an athlete (Brewer & Peptitas, 2017). Individuals higher in athletic identity have been found to respond more negatively to injury than those lower in athletic identity (Manuel et al., 2002; Brewer et al., 1993; Brewer, 1994; Evans & Hardy, 1995). The athlete's athletic identity is ultimately affected by the inability to participate or changing roles within the team due to the injury. This causes stress and anxiety and depression in many athletes and may increase or decrease throughout treatment (Appaneal, et al. 2009; Clement, et al. 2015; Nippert & Smith, 2008; Wadey. 2014)

Studies have shown that a more severe injury may be associated with more negative psychological responses, absence from sports, the greater threat to the self-identity (Brewer & Cornelius, 2010; Grindstaff, Wrisberg, & Ross, 2010; Grove, Fish & Eklund, 2004) and

consequently a larger decrease in well-being. Research by Parks (2015) indicated and supported that athletic identity positively related to negative emotional response and further indicated that runners who scored high for the athletic identity personality trait negative affectivity were likely to respond to their injury in negative emotions such as anger, contempt, disgust, fear, guilt, and nervousness.

Symptoms of depression and other mental illnesses may manifest due to an athletes' inability to participate in their sport, which Palisch and Merritt (2018) expands upon further in their work stating that "Along with identity loss, for many athletes, sports participation is an escape and provides a healthy coping mechanism for emotions and stress. When this avenue of stress release is taken from the athlete's life, he or she may not know how to cope" (Palisch & Merritt, 2018). This inability to cope with the stressors in an individual's life adds to the mental distress that an athlete may experience, which only hinders the rehabilitation process. The culmination of stress and the pressure to return to action is what often causes athletes to return to action prematurely which could affect their mental approach to the game and ability to perform at the same level before their injury.

Isolation has been identified as a psychological response to injury. It is often described as a feeling cut off from the team, coach, and familiar routines (Gould et al., 1997). According to this description of isolation, the injury itself is isolating because an individual is unable to participate in or perform the same tasks as they were able to before being injured (Thomas & Rintala, 1989). Therefore, feeling removed or isolated from the team can elicit a psychological response for the injured athlete (Gould et al., 1997; WeiseBjornstal, 1998). Circumstances in which athletes may perceive isolation from teammates and coaches to occur are: after major surgery (Shapiro et al., 2017; Udry, 1997), at the onset of injury (Evans et al., 2012), and during the rehabilitation process (Evans et al., 2012; Madrigal & Gill, 2014; Ruddock-Hudson et al., 2012; Ruddock-Hudson et al., 2014). Furthermore, as the severity of an injury increases, the experience of isolation also increases during the rehabilitation process (Ruddock-Hudson et al., 2012; Ruddock-Hudson et al., 2014).

Athletes often feel isolated and lonely when they are injured. This is especially true if they had been part of a team before injury or if their pursuit involved training with a group of athletes from whom they may now feel disconnected (Ruddock-Hudson, O'Halloran, & Murphy, 2012; Peterson, 2009; Russell, 2008). Along with this experience of isolation may come an unwanted feeling of envy of those who are healthy and able to continue participating in their sport or activity. Envy is an uncomfortable emotion and is often accompanied by shame or guilt. Injured athletes should know that envy may be part of their experience, especially when an injury is serious and long-term.

In a study conducted by Bejar, Fisher, Nam, & Larsen (2017), feelings of isolation occurred in professional Korean athletes, as well as feelings that teammates and coaches were disappointed in the athlete for being unable to participate. It was concluded that feelings of isolation may have resulted from the perception that coaches and teammates were angry with the athlete therefore, the athlete did not feel like they did not belong anymore, thus feeling isolated. Gould et al. (1997) noted that isolation is a coping mechanism used by injured athletes. Injured athletes may desire to be isolated from their sport as a way to sort things out, concentrate on rehabilitation,



and/or avoid uncomfortable situations where they feel like they have to act as if they are feeling okay in front of their teammates and coaches

Fear of reinjury after a sports injury can negatively affect the recovery of physical impairments, reduce self-report function, prevent a successful return to sport and affect health-related quality of life. When returning to training confidence can be affected and fear of re-injury can affect an athlete's ability to get back to pre-injury performance levels. Injured athletes often have a heightened experience of vulnerability after an injury. As they work towards re-entry into their sport or another activity, they may fear getting injured again. This may hinder full recovery and the possibility of immersion into sport in the future (Stephan, Deroche, Brewer, Caudroit, & Le Scanff, 2009; Peterson, 2009; Russell, 2008; Andersen, Mubaidin, Tibbert, & Morris, 2011).

Reinjury anxiety is associated with psychological changes including diminished concentration and self-confidence, as well as the increase in distractibility and pain awareness (Carson & Polman, 2008). Reinjury anxiety may also cause physiological changes including over-arousal evident through increased heart rate, generalized muscular tension, and guarding the injured site (Refshauge & Maher, 2006). Podlog and Eklund (2006) in a qualitative study of twelve athletes, all with severe injuries, found that successful rehabilitation was associated with effectively dealing with competition fears. In another study by the same authors (Podlog, et al. 2013), on eleven injured elite adolescent athletes, highlighting the dual fears of pain and re-injury, together with the fear of falling behind others, missing out, and underperforming. This suggests that fear is experienced by both adult and younger athletes.

Johnston and Carroll (1998) in their study observed that athletes who reported a high fear of reinjury also had certain behavioural responses, including but not limited to being hesitant, not giving 100% effort, and being wary of injury-provoking situations (e.g., during rehabilitation and in sporting contexts). They also found that athletes who positively appraised their injury rehabilitation (e.g., viewed their injury as manageable) reported feeling happiness and relief, which fostered increased adherence to rehabilitation. In contrast, athletes who negatively appraised their injury rehabilitation (e.g., viewed their injury as causing stress) reported feeling frustration, which led to hesitancy and cautiousness toward completing exercises in their rehabilitation program.

Sport participation at the elite level is highly demanding. The rigorous training and competitive nature cause athletes to sustain either minor or major injury which is inevitable. Athletes could be expected to experience a variety of psychological and emotional responses upon being injured which might affect their mental well-being, quality of life and sport performance. Putukian (2016) reported that when injured, athletes exhibit higher levels of depression, lower self-esteem, negative emotional reactions and increased anxiety, while Houston, Hoch, Van Lunen & Hoch (2017) found that injured athletes exhibit decreased well-being, poor health-related quality of life, and increased fear-avoidance beliefs compared to their non-injured counterparts.

Elite athletes are seen as highly mentally functioning individuals with various positive mental attributes such as "focused", "resilient," "confident" and "composed." The assumption is that only mentally and emotionally strong athletes will succeed and be able to compete at the highest level. According to Podlog, Heil, & Shulte, (2014) in psychological responses to injury revealed some athletes report thoughts of worry about disappointing their

team, as well as concerns about not meeting their goals or being able to return to pre-injury level of play. This is concerning as these thoughts could lead to feelings of isolation, decreased health-related quality of life, and slower recovery process due to fear of re-injury, and loss of motivation (Houston et al., 2017; Podlog & Eklund, 2006; Podlog et al., 2014). These several psychological responses and others can affect the mental and general well-being of athletes.

Many of the elite athletes in Ibadan, Oyo state constantly report their well-being to their coaches as a result of injury in order to be exempted from their usual physical sport trainings. Also, the researcher observed that the elite athletes do not have adequate access to mental health services and professional, as individual athlete's does not receive better attention if injury sustained lingers to heal. There is no any mental health institution that conduct any form of mental health screening for the injured athletes to ascertain their well-being. The injured athletes are giving little or no concern as it takes many of the athletes longer period to return to sports and many do not receive better treatment on the wounds and injuries. Another aspect is that the physical treatments of the injuries are focused, while there is little or no concern about the psychological consequences of their injuries. It is on this note that the study investigated psychological consequences of sport injury on mental well-being of elite athletes in Ibadan, Oyo State, Nigeria

### **Hypotheses**

The following hypotheses were tested;

1. There is no significant joint contribution of psychological consequences of sport injury (stress, depression, loss of identity, isolation and fear of re-injury) on mental well-being of elite athletes in Ibadan, Oyo State, Nigeria
2. There is no significant relative contribution of psychological consequences of sport injury (stress, depression, loss of identity, isolation and fear of re-injury) on mental well-being of elite athletes in Ibadan, Oyo State, Nigeria

### **Method**

#### **Design, Population, Sample and Sampling Technique**

The descriptive research design of survey type was employed for this study. The population for this study comprised elite athletes of Oyo State Sports Council, Adamasingba, Ibadan, Nigeria. The sample size for this study was one hundred (100) (Males= 63, Females = 37) elite athletes from the State Sports Council. Purposive sampling technique was used to select one hundred (100) elite athletes with past injury records, who have participated and represented the State in various interstate and national competitions from various sports (Athletics = 16, ball games = 35, racket games = 18, combat games = 13, weightlifting = 12 & swimming = 06).

#### **Instrumentation**

The instruments used for data collection include;

**The Perceived Stress Scale (PSS; Cohen & Williamson, 1988)**, the PSS was used to measure participants' stress levels over the past month by inquiring about their thoughts and feelings in

ten situations. This was rated on 5-points Likert scale (0 = Never - 4 = Very Often) on questions such as: "In the last month, how often have you been upset because of something that happened unexpectedly?" "In the last month, how often have you felt nervous and 'stressed'?" and "In the last month, how often have you been angered because of things that were outside of your control? The scale has a reliability of ( $r = 0.85$ ). The higher the score, the higher the perceived stress level.

**Centre for Epidemiologic Studies-Depression Scale (CES-DS):** by Radloff (1977) was used to measure depressive symptomology in the athletes, and places an emphasis on the affective component including depressed mood, feelings of guilt and worthlessness, feelings of helplessness and hopelessness, psychomotor retardation, loss of appetite and sleep disturbance. The CES-DS is a 20 item, self-report measure to which respondents indicated 1 (rarely or none of the time) to 4 (most of all of the time). The CES-DS demonstrated very high internal consistency (Cronbach's alpha = .86).

**Athletic Identity Measurement Scale (AIMS)** by Brewer, Van Raalte & Linder (1993) was used to measure the strength and exclusivity of loss of athletic identity including its cognitive, affective, and social foundations of the athletic identity of the participants. It is a 7-item, self-report measure to which respondents indicated 1 (strongly agree with the statement) to 7 (strongly disagree with the statement). A composite score is then calculated for each participant by summing up scores on individual items, with higher scores indicating stronger and more exclusive athletic identity. AIM was found to have high internal consistency (Cronbach alpha = 0.84).

**Modified Revised UCLA Loneliness Scale (MRULS):** Revised UCLA Loneliness Scale (MRULS) was designed by Russell (1996). A 20-item scale designed was modified to a 13-item by the researcher to measure athlete's subjective feelings of isolation as well as feelings of loneliness. Participants rate each item on a scale from 1 (Never) to 4 (Often). MRULS reported high psychometric properties.

**The Sport Injury Anxiety Scale (SIAS; Cassidy, 2006):** [formerly known as the Sport Injury Appraisal Scale] was utilized to assess athlete's fear of re-injury. There are 23 items divided into seven subscales, which are the sub-factors for sport injury anxiety; losing athleticism (five items), experiencing pain (four items), loss of social support (four items), re-injury (four items), letting down important others (four items), and impaired self-image (four items). These items are in statement form and rated using a five-point scale from "strongly disagree" to "strongly agree". The SIAS has been reported to have strong internal consistency ( $\alpha = 0.95$ ) and equally strong measures of reliability for the seven subscales (alpha coefficients ranging from 0.81 to 0.90)

**The Short-Form 8 (SF-8) Health Survey:** This was used to assess mental health of the elite athletes. The SF-8 is a short version of the 36-Item Health Survey (SF-36) by McHorney, Ware, Lu & Sherbourne (1994) and was measured on the same point scale (0-100) as the SF-36, with 0 representing maximum disability and 100 representing no disability. The SF-8 is an eight-item, self-reported mental health questionnaire comprising eight domains (general health perceptions, physical function, bodily pain, physical role function, emotional role function, social function, vitality and mental health). The scale reported a high reliability of .91.

### Procedures

Elite athletes were invited to participate in the survey after meeting with the respective authority and coaches of various sports in Oyo State Sports Council, Adamasingba, Ibadan, Nigeria. The aims of the study were explained to the participants. Upon securing informed consent from the participants, questionnaire was administered in a quiet and conducive environment after their usual daily trainings. The participants were informed that participation in the study was voluntary and they have the right to withdraw at any time and were also permitted to ask any unclear opinions from the questionnaire. The participants were also informed that there were no wrong or right answers for their responses as data collected was assured with great confidentiality. The filling of the questionnaire was about 15 minutes. The collection of the questionnaire was carried out on the spot after filling and responses from the participants, while the researcher appreciated the participants and the team's authorities.

Data collected were analysed using descriptive and inferential statistics of frequency count, and multiple regression at 95% level of confidence.

### Results

#### Hypothesis 1:

There is no significant joint contribution of psychological consequences of sport injury (stress, depression, loss of identity, isolation and fear of re-injury) on mental well-being of elite athletes in Ibadan, Oyo State, Nigeria

**Table 1:** Summary of regression for the joint contribution of psychological consequences of sport injury to the prediction of mental well-being of elite athletes

R = .924						
R <sup>2</sup> = .854						
Adjusted R <sup>2</sup> = .851						
Std. Error = 4.83258						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	26711.801	5	5342.3602	110.272	.000 <sup>b</sup>
	Residual	4553.994	94	48.447		
	Total	31265.795	99			

Table 1 reveals significant joint contribution of the psychological consequences of sport injury (depression, stress, isolation, loss of identity and fear of re-injury) to the prediction of mental well-being of athletes. The result yielded a coefficient of multiple regressions  $R = 0.924$  and multiple  $R^2 = 0.854$ . This suggests that the five factors combined accounted for 85.1% ( $Adj.R^2 = .851$ ) variance in the prediction of mental well-being of athletes. The other factors accounting for the remaining variance are beyond the scope of this study. The ANOVA result from the regression analysis shows that there was a significant influence of the psychological

consequences of sport injury on the mental well-being of elite athletes of Oyo State, Nigeria;  $F(5, 94) = 110.272, p < 0.05$ . Therefore, the null hypothesis is rejected.

### Hypothesis 2:

There is no significant relative contribution of psychological consequences of sport injury (stress, depression, loss of identity, isolation and fear of re-injury) on the mental well-being of elite athletes in Ibadan, Oyo State, Nigeria

**Table 2:** Relative contribution of the psychological consequences of sport injury to the prediction of mental well-being.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.219	2.819		.078	.938
Stress	-.699	.047	-.667	-15.007	.000
Depression	-.731	.107	-.250	-6.852	.000
Loss of identity	-.076	.058	-.050	-1.316	.190
Isolation	-.304	.050	-.197	-6.065	.000
Fear of re-injury	-.411	.100	-.210	-4.152	.000

Table 2 shows that the four predictors (stress, depression, isolation and fear of re-injury) are potent predictors of mental well-being. The most potent factor was isolation ( $\beta = -.197, t = -6.065, P < 0.05$ ), followed by fear of re-injury ( $\beta = -.210, t = -4.152, P < 0.05$ ), depression ( $\beta = -.250, t = -6.852, P < 0.05$ ), stress ( $\beta = -.667, t = -15.007, P < 0.05$ ), but not with loss of identity ( $\beta = -.050, t = -1.316, P > 0.05$ ). Therefore, the null hypothesis is rejected. This implies that, increase in the influence of isolation, fear of re-injury, stress and depression will affect mental well-being of elite athletes by 19.7%, 21%, 25%, and 66.7% respectively.

### Discussion of Findings

The purpose of this study was to investigate the psychological consequences of sports injury on the mental well-being of elite athletes in Ibadan, Oyo State, Nigeria. The results of this study found that there was a significant influence of the psychological consequences of sport injury on the mental well-being of elite athletes of Oyo State. This corroborates with the study of Houston, Hoch, Van Lunen & Hoch (2017) that injured athletes exhibit decreased well-being, poor health-related quality of life, and increased fear-avoidance beliefs compared to their non-injured

counterparts. This is further supported by the study of Putukian (2016) who reported that when injured, athletes exhibit higher levels of depression, lower self-esteem, negative emotional reactions and increased anxiety.

The finding of this study further showed that there was significant relative the contribution of psychological consequences of sports injury on the mental well-being of elite athletes. The factors of stress, depression, isolation and fear of reinjury were potent psychological consequences on the mental well-being of the elite athletes, while loss of identity was not a potent factor in this study.

This study showed that the stress level of the elite athletes' increases and this affect their mental well-being. This could be as a result of disturbed thinking on how to return to sport, total distance from sport, rehabilitation and healing period could serve as potential factors that elevate the stress level. This coincides with the report of the American College of Sports Medicine (2017) that increased stress and depressed mood create negative feedback to the athlete in the recovery from injury, and can impact treatment and outcomes, while Fuqua (2017), found that stress, negative affect, depression, anxiety, and athlete burnout are all positively correlated. The relationship between these psychological health variables is not only statistically significant, it is also clinically significant

Also, it was found that elite athletes experienced and suffered from depression due to sports injury. This could be a a result of lack of participation in routine activities, inability to return to sports on time, pain, frustration, insomnia among others. This is in line with the study of Simon & Docherty (2014), who found that current health-related quality of life (HRQoL) in former Division I athletes compared with non-athletes showed that the former group had lower HRQoL compared with the latter group. The former group athletes scored worse on the physical function, depression, fatigue, sleep disturbance, and pain interference PROMIS scales than non-athlete, while Putukian (2016) reported that some student-athletes experience depression as a result of performance failure especially when sustain significant injuries, such as knee injuries associated with time loss from sport, they can suffer both physically as well as emotionally with a decrease in their quality of life.

Furthermore, this study found that elite injured athletes felt isolated as a result of sports injury which impacts their mental well-being. This is similar to the study of Bejar, Fisher, Nam, & Larsen (2017), who found that feelings of isolation occurred in professional Korean athletes, as well as feelings that teammates and coaches were disappointed in the athlete for being unable to participate. The researchers further revealed that feelings of isolation may have resulted from the perception that coaches and teammates were angry with the athlete therefore, the athlete did not feel like they did not belong anymore, thus feeling isolated.

The result of this study revealed that elite athletes experience fear of re-injury which poses threat and affect their mental well-being. This is in agreement with the findings of Podlog, et al. (2013), on eleven injured elite adolescent athletes, highlighted the dual fears of pain and re-injury, together with the fear of falling behind others, missing out, and underperforming, while Carson & Polman (2008), found that reinjury anxiety is associated with psychological changes including diminished concentration and self-confidence, as well as the increase in distractibility and pain awareness

In this study, it was found that loss of identity was not significant. This coincides with the study of Palisch and Merrit (2018) who stated that along with identity loss, for many athletes, sports participation is an escape and provides a healthy coping mechanism for emotions and stress, but this is against the study of Parks (2015) who indicated that athletic identity positively related to negative emotional response and further indicated that runners who scored high for the athletic identity personality trait negative affectivity were likely to respond to their injury in negative emotions such as anger, contempt, disgust, fear, guilt, and nervousness.

### Conclusion

The current study examined the psychological consequences of sport injury on the mental well-being of elite athletes. Based on the findings of this study, it was revealed that stress, depression, isolation and fear of re-injury affect the mental well-being of elite athletes as a result of injuries from participating in various sports, while loss of identity was not a significant factor of psychological consequences of sports injury on mental health of the participants.

### Recommendations

Based on the findings of this study, the following recommendations were made:

1. Education of athletes, coaches, support staff, friends and families about symptoms of different mental health conditions
2. Education of medical professionals about the different high-performance sport contexts
3. Allow for transparent communication about injury risks and causes. Use the experiences from injured athletes in education to show how injury can support maturation, athlete development, and minimize mental issues.
4. Psychological health monitoring should be supported and refer athletes with increased negative psychological health factors to trained sport psychologist to reduce the chance of perpetuating his or her maladaptive response to injury.
5. Encouragement and establishment of mental health care centres for athletes to monitor and enhance mental and general well-being.
6. Seminars for medical and sport psychology professionals involved with elite athletes should be carried out regularly
7. Reinforce all behaviours that will facilitate help-seeking when athletes suffer with a mental health disorder, such as social support, positive relationships with service staff, confidentiality, time for therapy sessions, encouragement from others.

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