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RELATIONSHIP BETWEEN TYPE A, TYPE B BEHAVIOURAL PATTERNS AND SPORTS INJURIES AMONG ATHLETES IN TARABA STATE, NIGERIA

Baba N. Gurama, Tanko Noku, Hassan Beki, & Bulus Tikon

Department of Physical and Health Education, School of Undergraduate Studies College of Education Zing

Abstract

The occurrence of an injury produces attributional cognitive activity. Following injury, athletes may engage in cognitive activity to determine which causes their injury to occur. Attributed fear, anxiety, depression, stress, and anger as among the most commonly reported emotions accompanying athletic injury. This is to determine Type A behaviour pattern and sports injury among athletes in Jalingo, Taraba State, Nigeria. A prospective cohort design adopted for the study. A total of 632 Athletes with the age range of 17-31 years (71.5% males and 28.5% females) from 20 different Secondary Schools' teams. The main objective of the study was to investigate the relationship between incidence of injuries in sports' activities and behaviours of athletes in the state. The investigation was conducted with an adopted questionnaire on Type A and type B behaviour patterns of athletes. Before the start of the competition questionnaire on behaviour patterns were administered and after the competition injuries in sports activities were recorded by each of the athletes. Data collected were analyzed using Statistical Package for the Social Sciences (SPSS). IBM version 26. Statistics employed will be descriptive statistics of frequencies and percentages, mean, and SD to answer all the research questions. Inferential statistics of Mann-Whitney U test and the Spearman rho correlation procedure were used to test difference between male and female athletes and relationship between Type A, type B and frequencies of injuries among the athletes. The significance was fixed at the alpha level of 0.05. Results revealed that athletes exhibited Type A and Type B behaviour patterns, and frequency of injuries were not significantly correlated with type A or type B behavioural patterns of athletes. There were no significant gender differences in Type A, Type B and frequencies of injuries among the athletes.

Keywords: *Athletes, Sports Injury, Type A Behaviour Pattern, and Type B Behaviour Pattern*

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INTRODUCTION

Ideally, the concern of an athlete is to have up-to-date knowledge of his/her sports, to prepare him/her for better Performance in future, as such Athletes train and compete under various conditions, quite a lot of pressure is mounted up on the Athletes by management, spectators, coaches and significant others. In order to be successful Athlete, the individual has to set goal and specifically new changing and challenging goals. The Type A behaviour pattern can be explained as a basic complex idea that characterizes individuals who have highly competitive desire for achievements and recognitions, along with a tendency towards hostility and aggression and an existence sense of urgency. Type A person is always seeing objectives and challenges to overcome. He/she talks fast, acts fast, interrupts and shows signs of impatience. Type A behaviour pattern has been demonstrated to be a significant predictor for heart attacks as high cholesterol, hypertension and smoking may contribute to these risk factors. Stress increases blood pressure, a far more powerful effect on serum cholesterol than dietary fats intake, and many people who smoke because they are under stress (Agbu & Ebele, 2012).

Type A behaviour pattern particularly, increased anger, hostility, and cynicism may be likely to cause heart attacks and sudden death. An individual exhibiting the Type A behaviour pattern is typically a set of interrelated behaviours reflecting hard-driving, an extreme sense of time urgency and hostility. The

Type A such tension or over excitement could have the possibility to suffer from a high percentage injury occurrence compared to the non - Type A (Agbu & Ebele, 2012). Anderson and Williams (1988) proposed a model of relations between life stresses and sports injuries, including sociological and psychological factors such as life stresses, personality and resources for coping with difficulties.1) This model has contributed to preventing several kinds of sports injuries. Type A behaviour pattern (TABP) is a concept that was developed from Friedman and Rosenman's observations. ll) They found out that this specific behaviour pattern was associated with coronary heart disease (CHD).

After Friedman and Rosenman's proposal many investigators studied TABP (Rockies, 1978; Jenni, & Williams, 1979; Krantz, & Duel, 1983; Matthews, & Hayne, 1986; Blumenthal, & Levenson, 1987; and Blumenthal, Emery, Walsh, Cox, Kuhn, & Williams, 1988) and it was found that TABP was a major independent risk factor for CHD, and the risk was of similar magnitude to those of traditional factors such as high blood pressure, advancing age, elevated serum cholesterol, and cigarette smoking. In the case of athletes, Type A individuals might show a disturbance of nerve-muscle coordination or absence of sufficient attention to the circumstances under the conditions of training or competition with too much tension or excitement. Thus there is a possibility that Type A athletes suffer from a higher percentage of injury occurrence compared with non-Type A athletes. However, the relationships between TABP and sports injuries are not clear at present. This study investigated the relations between the tendency toward TABP and sports injuries.

(Dacus, Castagno, Castagno, Gontre, & Weiss (2023) described that sports injuries can affect athletes across all ages, sexes, and levels of competition. The mental aspect of acute sports injury is often overlooked by coaches, trainers, and medical professionals. This study investigated if and how an acute traumatic sports injury affects an athlete's psychological well-being, adherence to sport, and athletic identity. One of the often overlooked areas of sports training and medicine is the impact of injury on an athlete outside of the physical damage done by the traumatic event. Understanding how injury influences an athlete across multiple dimensions is vital to improving athletes' mental wellness and overall well-being before, during, and after their athletic careers. Previous research has shown that the identity of athletes and their association with being an athlete throughout their lives is highly significant and an influential contributor to how athletes see themselves in the community and their adherence to the sport. The stronger an athlete's self-identification as an athlete and their embodiment of the role of an athlete within their community showed statistically significant improvement in their athletic performance (Dacus, Castagno, Castagno, Gontre, & Weiss, 2023).

Additionally, these injuries' physical and psychological impact translates into their athletic identity and performance. The athlete's ability to balance their physical and mental performance post-injury varies greatly, and the need for physicians, coaches, and trainers to treat the mental aspect of their athletes/patients is becoming increasingly apparent. This study explores how an acute traumatic Type A behaviour pattern that causes sports injury affects an athlete's psychological well-being, adherence to sport, and athletic identity (Dacus et al., 2023). According to Shashidhara and Krinshnaswamy (2017), professional athletes need to be fitter today than those athletes in previous years. They compete more frequently and often at a higher level, as witnessed by the speed with which records fall. The stress with which athlete's encounter their bodies is enormous. The term "sports injury," in the broadest sense, refers to the kinds of injuries that most commonly occur during sports or exercise. Some sports injuries result from accidents; others are due to poor training practices, improper equipment, lack of conditioning, or insufficient warm-up and stretching. Although virtually any part of your body can be injured during sports or exercise, the term is typically reserved for injuries that involve the musculoskeletal system, which includes the muscles, bones, and associated tissues like cartilage. Athletic injuries may stem from a single traumatic episode or from repeated over-use of a body part. The status of the athlete at the end of the practice or competition to determine whether a reportable injury has occurred (Shashidhara & Krinshnaswamy, 2017).

STATEMENT OF THE PROBLEM.

In view of this the Type As behaviour pattern prove themselves and comparing their own achievements with others might be an incentive to set challenging goals. In line with this, sport injuries can result in the sudden removal of what some Athletes may consider as a substantial source of fulfillment and

enjoyment in their lives, this impact to some extent far above their ability to comprehend and participate in activities from which they gain satisfaction and pleasure. Type A behaviour pattern individuals learn to define, sacrifice, risk pain and injury as the price one must pay to achieve and returning to competition before, full recovery, dropping and out from a rehabilitation programme, ignoring and tolerating pain without complaining about minor ache and coming back to training unless coaches and teammates are alarmed. Education demands constant adjustment and learning of new knowledge and skills especially Business Education, Agriculture Education, Physical and Health Education and Sports, and other related areas in academics, these could be quite stressful and demanding to many other academia. It is then 3 probable that the tendency to persevere and adjust to the challenging situation may be linked to the personality type of individuals; specifically, the Type A personality type. The concern is that such personality types, which are exhibited by individuals who are highly competitive, ambitious, work-driven, time conscious, could present health related complications. Research predicts that for those exhibiting Type A behaviour pattern, heart disease by age 65 is almost certain. Type A individuals usually find themselves in stressful, demanding jobs and this leads to metabolic syndromes and other health problems as well as social isolation because of the tendency to alienate others or spend too much time on work with little or no social relationships. This study therefore, investigates the Type A behaviour pattern and sports injuries among Athletes in Taraba State, Nigeria.

OBJECTIVES OF THE STUDY

The broad objective of this study is to investigate the Type A and Type B Behaviour patterns prone to sports injuries among Athletes in Taraba State, Nigeria.

The specific objectives of this study therefore, are to determine:

Athletes' Type A behaviour pattern in Taraba State, Nigeria,

Athletes' Type B behaviour pattern in Taraba State, Nigeria,

Frequent occurrence of sport injuries among Athletes in Taraba State, Nigeria, and

Relationship between athlete's Type A, Type B behaviour Patterns and incidence of injuries in sports activities, Taraba State, Nigeria.

RESEARCH QUESTIONS

The following Research Questions were answered:

What are the type A behaviour patterns among Athletes in Taraba State, Nigeria?

What are the type B behaviour patterns among Athletes in Taraba State, Nigeria?

Are there gender differential type A, type B and frequencies of injuries among Athletes in

Taraba state

What is the relationship between type A, type B and frequencies of injuries among Athletes in

Taraba state

Type A Behaviour Pattern

The Type A behaviour pattern (TABP) was first described in 1959 by the two cardiologists named Meyer Friedman and Ray Rosenman, as an action-emotion complex that can be observed in any person who is aggressively involved in chronic, incessant struggle to achieve more and more in less time, and if required to do so, against the opposing effects of other things or persons (Scott, 2007). The characteristics of Type A behaviour pattern (TABP) are time urgency and impatience, as demonstrated by individuals who among other things, get frustrated while waiting in line, interrupt others, often walk or talk at a rapid pace, and are always painfully aware of the time and how little of it they have to spare. Other behaviour include free-floating hostility or aggressiveness, which shows up as impatience, rudeness, being easily upset over small things, or having a short fuse (Scott, 2007).

An individual TABP is also characterized by a set of interrelated behaviours reflecting hard-driving, impatience, competitiveness, ambitiousness, a high need of achievements, an extreme sense of time

urgency, job involvement, aggression, and hostility intense, sustained drive to achieve self-selected goals, profound eagerness to complete and need to "win" persistent desire for recognition and advancement, habitual tendency to increase the rate of doing most physical and mental activities, extreme mental and physical alertness and pervasive aggression and hostility feeling. Yang, Telema, Keltikangas-Jarvinen, and Raikkonen (2014) described TABP adults' regular exercise behaviour have adherence to exercise and more hard-driving behaviour than their Type B counter parts; where there appeared to be relationship between aerobic exercise and Type A behaviour. The researchers went further that Type A behaviour is a multidimensional construct characterized by aggressiveness, easily aroused hostility, a sense of time urgency, and competitive achievement striving. Conversely, Type B behaviour pattern is characterized by the relative absence of Type A behaviour pattern. That of the Type A characteristics, the competitive and the achievements striving traits are positively associated with the characteristics traits of the Athletes and their achievements goals (Yang, Telema, Keltikangas-Jarvinen, & Raikkonen, 2014).

Indeed, competitive sport actually requires some measure of aggressive behaviour, especially in body contact sports. Some are for example, soccer, basketball, handball, rugby, volleyball, hockey ect which have shown that players may actually be responsible for encouraging aggressive behaviour. They are expected and instructed to be physically and emotionally aggressive. Alliance to Friedman, and Rosenman (1950), the Type A behaviour pattern builds on the psychosocial or "personality" perspective which started to observe the behaviour and characteristics of their patients with coronary conditions. They identified a constellation of observable behaviours, which became known as the Type A behaviour pattern. In regard to the remarkable consistency the investigators noted an ubiquitous hurriedness, impatience, sense of time urgency, a pervasive pattern of competitive striving, and frequently and readily aroused anger and hostile feelings and behaviour.

Friedman and Rosenman noted key things as struggle-incessant efforts to overcome real or imagined obstacles imposed by time, events, and especially other people. These gave them the impetus to define Type A behaviour pattern as: an action-emotion complex that is exhibited by those individuals who are engaged in chronic and incessant struggle to achieve more and more in less and less time (this giving rise to a sense of time urgency or hurry sickness) and who usually (but not always) exhibit a free - floating but we'll rationalized hostility (Friedman and Rosenman, 1950). Samaras, & Galanakis (2022) reported a contemporary research / new personality types. The discussion of the research paper was centered on Type A and Type B personality types have been important, but as Science progresses more personality types were identified.

The new personality types that were discovered in the recent past years are: Type C, Type D, and Type T, which have distinct differences from the previously known Type A and Type B personality behaviour pattern. According to Singh, Singh, and Singh (2017), both physical inactivity and Type A behaviour patterns are linked with coronary heart diseases. The researchers went further to illustrate the theory of the Relationship of personality with coronary heart diseases (CHD) which initially came to prominence about 50 years ago with the notion of TABP, an amalgam of edginess, hostile conduct, competitiveness and domination. In agreement with the finding of Singh, Singh, and Singh (2017), World Anti-Doping Agency (WADA) (2008) considered risk factors in coronary heart diseases.

WADA (2008) explained the connection between this type of behaviour and different Psychological Variables, such as extraversion-introversion, self-perfectionism, a high level of competitiveness, a high need for achievements and recognitions, ambition, overwork for aiming the purposes, hostility aggressiveness, behaviour reflecting impatience. Conclusively, the behaviour of Type A behaviour pattern is generally ruled by three factors: competitiveness, impatience, and aggressiveness. Lifestyle associated with this type of behaviour develops a specific mechanism of protection against what is perceived as possible obstacles or tension factors. According to WADA (2008) Type A behaviour pattern is specific to that group of subjects, who share a well-structured behaviour resemble, which characterizes their way of understanding the daily life, a behaviour that is marked particularly by the competitions spirit, eagerness for social or professional success, hyperactivity, impatience, time compressing feeling and tension translated into facial mimicry, which could be interpreted as hostility towards others (WADA, 2008).

Type B Behaviour Pattern

On the other hand, the Type B individuals are characterized by a stress-free way of operating. They are patient, relaxed, easy going, and usually do not have conflicts with co-workers. They maintain a stable personality and are almost always even tempered. Finally, they are able to adjust easily to new environments. Plenty of studies have found that Type A personality is a predictor of high academic achievement but nowadays conscientiousness appears to be a much stronger predictor. Type A personality still appears to have a positive effect on academic performance (Aabida et al., 2019). The Type B personality mainly lacks all the traits that characterize Type A. Type Bs might have difficulty in academic settings because they are characterized by procrastination, can be more casual than what is needed to succeed in a competitive setting, and can be unmotivated (YouTube, 2020). On the other hand, Type Bs scored very low on the same variable (Samadypoor & Kord Tamini, 2016).

The risky behaviors mentioned in the study included smoking, alcohol, drugs, addictions, and unprotected sexual behaviors. It is very interesting how Type A traits can manifest in different ways depending on the individual and the situation they are in. The same traits that can lead to great job and academic performance could lead to unwanted negative behavior and lead to serious issues in the development of adolescents. Type B behaviour is characterized by the relative absence of Type A behaviour. Of the Type A characteristics, the competitive and the achievement striving traits are positively associated with the characteristic traits of athletes and their achievement of goals (Yang, Telema, Keltikangas-Jarvinen, & Raikkonen, 2014).

Conversely, we enrolled as controls for the same studies only those Type B subjects who appeared to exhibit complete tranquility and total peace of mind (we designated such individuals as Type B-4 in contradistinction to Type B-3, or slightly less serene subjects). Our rationale for always selecting these extreme subjects could be understood by recalling how much easier it is to detect the deleterious hemodynamic effects of hypertension in subjects whose average blood pressure is 250/130 mm. Hg than in those whose average blood pressure may be only 155/95 mm. Hg (Friedman, 1977). Similarly, Type B individuals have the confidence to work steadily without rush, finish work on time, and obtain good results but in a different manner (Mahajan & Rastogi, 2011). In an example, Type Bs professionals were found to score better compared to Type As in stressful situations, i.e. family conflicts, daily hassles, and criticism. Type Bs are open to criticism which explains why they could score higher in the study (Darshani, 2014).

Furthermore, some suggested type B were better than type A in problem-solving when there is no time constraint. To support this, previous studies by Keinan & Koren (2002) showed that team composition of type B individuals rather teamed up with those who are pleasant with good interpersonal skills. In contrast, a study by Janice (1995) supported this finding as she found that Type B's executives in the finance sector are more affected by their interpersonal relationship (Agbu, Ojo, & Anks, 2018). Those who do not exhibit these behaviours are labelled type B and do not show increased risk for CAD. They are typically more relaxed, easy going, satisfied and unhurried. Similarly, they may be categorized as type B3 (weak B) to B4 (fully developed B). People who do not fall into either category are classified as type X. However, most practitioners use a simple dichotomous A/B classification (Malcolm,1987).

Sports Injury

WHO (2008) explained that sports and physical activity have associated health risks. These risks include injury from overexertion, unsafe playing conditions, lack of appropriate training and safety equipment, sport violence at mass sport events. In high-performance sport, the use of illegal performance-enhancing substances (coping) poses additional health risks. Prolonged exercise also increases risk of upper respiratory tract infections and negatively affects people who are not accustomed to such activity. Risk from exercise arises when people of all fitness levels engage in heavy exertion, but is greatest when inactive people suddenly become highly active. In accordance with WHO (2008) Singh, Singh, & Singh (2017) explain that physical activity has been a proven preventive measure against the health related issues, it's vital to promote physical activity as a public health priority. Participation in regular physical activity has been associated with a large number of factors broadly classified as environmental, personal, and social (Singh, Singh, & Singh, 2017). Lemoyne, Poulin, Richer, & Busieres, (2022) stated that a large body of evidence has supported health benefits of

participation in sport. It also reveals that the excessive practice of the sport, especially in the competitive context, is associated with an increased risk of musculoskeletal injuries. Sport injuries are associated with high direct and indirect causes, and can lead to early sport retirement of Athletes.

Sport injury may also lead to decreased sport participation and associated all-cause morbidity, overweight/obesity and post-traumatic osteoarthritis. In line with this, Shi, Yang, Huang, Zhou, Zhou, and Chu, (2011) mentioned findings that injuries affect all age groups but have a particular impact on young people. To evaluate the incidence of non-fatal, unintentional, injuries among undergraduates is Wenzhou, China, assess the burden caused by these injuries, and explore the associated risk factors.

Richard (2002 reported that physical factors such as overtraining, equipment failure, and poor playing conditions are believed to be the major factors contributing to athletic injuries. Psychological factors play an important role in the incidence, prevention, and rehabilitation of athletic injuries. In addressing the important subject of the psychology of athletic injuries, three main sections have been prepared. They are: Psychological predictors of athletic injuries; Athlete response to injury and rehabilitation; and other considerations. The Psychological predictors of athletic injuries stands to reason that if researchers can identify Psychological factors associated with the occurrence of injuries, steps can be taken to reduce the number and severity of those that do occur. Any cognitive appraisal that leads to the stress response puts athletes at risk for injury. Factors that impact the stress response include personality of the Athlete, history of stressors, coping resources, and potential interventions.

Personality factors: personality factors include hardiness, locus of control, and sense of coherence, competitive trait anxiety, and intrinsic motivation. History of stressor: Factors incorporated under the category of history of stressors include stressful life events, daily hassles, and previous injuries. Life stress and daily hassles based on the relationship between stressful life events and increased illness is extended to the athletic domain. The more life stress the athlete experiences, the greater is the incidence and severity of the athletic injury. Previous injury: Athletes who are worried about the occurrence of an injury, or about whether or not they have fully recovered from a previous injury, are vulnerable to further injury (Lavallec, Keener, Moran, & Williams, 2004).

In another dimension, Nigorikawa, Oishi, Yasukawa, Kamimura, Murayama, and Tanaka (2018) indicated that most concern causes of sports injuries are mainly the physical factors Athletes and/or environmental factors of playing field. The fact remains that there are many athletes who have been injured very often independently of physical or environmental factors, suggesting that the effect of mental and psychological factors should be considered. The occurrence of Sport injuries and several life stresses and personality types among Athletes. According to Brown (2005), the impact of injury is far more than physical, it can jeopardize an athlete's confidence, self-efficacy, and sense of identity. Athletes may experience decreased self-perceptions, which in turn could negatively affect motivation and exercise performance. Report findings varied with respect to global self-esteem, which documented that no pre to post injury difference or injury status differences in global self-esteem. In contrast other studies have reported decreases in global self-esteem after injury. For example, Perry (2005) found a decrease in total and physical self-esteem in Athletes with injury compared to Athletes without injury. Their study revealed that injured Athletes had significantly lower total and physical self-esteem scores than non-injured and recovered Athletes. Self-esteem changes in runners and reported significantly lower injured runners (those unable to run for two weeks) than in non-injured runners.

In his (1996) book, Type A Behaviour: Its Diagnosis and Treatment, Friedman suggests that dangerous Type A behavior is expressed through three major symptoms: (1) free-floating hostility, which can be triggered by even minor incidents; (2) time urgency and impatience, which causes irritation and exasperation usually described as being "short-fused"; and (3) a competitive drive, which causes stress and an achievement-driven mentality. The first of these symptoms is believed to be covert and therefore less observable, while the other two are more overt (Friedman, 1996). Type A people were said to be hasty, impatient, impulsive, hyperalert, potentially hostile, and angry (Smith & Gallo, 2001). Research has also shown that Type A personalities may be used to deal with reality or avoiding difficult realizations. Therefore, those with Type A personalities may use certain defences or ways of dealing with reality to avoid difficult realizations (O'Connor, 2002) For example, one study found that those

with Type A personality are more likely to show higher levels of denial than Type B in stressful situations (O'Connor,2002).

In accordance with the study conducted by Perry (2005), injured athletes reported negative responses such as being irritable, miserable and unhappy on the day following the injury compared to positive emotions like cooperative, optimistic, good, happy, and enthusiastic reports during rehabilitation. A comparison of emotions of athletes with injuries to those without injuries indicated that sport injury is associated with emotional disturbance. Those injured athletes experience a variety of negative emotions and to a lesser extent, positive emotions. The occurrence of an injury produces attributional cognitive activity. Following injury, athletes may engage in cognitive activity to determine which causes their injury to occur (San-Jose, 2003). Brown (2005) attributed fear, anxiety, depression, stress, and anger as among the most commonly reported emotions accompanying athletic injury.

MATERIALS AND METHODS

A prospective cohort design adopted for the study. A total of 632 Athletes with the average age range of 17-31 years (452 males and 180 females) from 20 different Secondary Schools' teams made up males and females who were in the process of competition in the state capital. Data collection was carried out before the start of the competition. Data collected were analysed using Statistical Package for the Social Sciences (SPSS). IBM version 26. Statistics employed will be descriptive statistics of frequencies and percentages, mean, and SD to answer all the research questions. Inferential statistics of Mann-Whitney U test and the Spearman rho correlation procedure were used to test difference between male and female athletes and relationship between Type A, type B and frequencies of injuries among the athletes. The significance test was fixed at the alpha level of 0.05.

RESULTS

A total of 632 athletes from various sports disciplines were involved in the study. Gender wise, 71.5% of the total were males. The females were 28.5% of the total number of athletes involved in the study. The mean age of the athletes was 20.0years with a standard deviation of 1.998 which implied that the athletes were relatively within young age at which participation in sports could be said to be active.

Characteristics of athletes with Type A behaviours

To determine their type A behavioral patterns, Table 1 showed the expressed opinions of the athletes on the five-point Likert scale along with computed mean scores and standard deviations on the items for type A behaviors. Decision on the items is based on a midpoint average of 3.0. Lower mean score indicated negative opinion while those with 3.0 and above indicated positive opinion or affirmation of the suggested notion of behavioural trait.

Table 1: Opinions of athletes on type A behaviours

S/N	Type A behavioural patterns	SA n (%)	A n (%)	U n (%)	D n (%)	SD n (%)	Mean	Std. Dev.
1	I prefer to move around rapidly when I am not doing anything.	161 (25.5)	265 (41.9)	77 (12.2)	72 (11.4)	57 (9.0)	3.64	1.232
2	I prefer to finish the task at hand as soon as possible.	208 (32.9)	165 (26.1)	94 (14.9)	96 (15.2)	69 (10.9)	3.55	1.367
3	I am never late if I have an appointment.	218 (34.5)	187 (29.6)	87 (13.8)	88 (13.9)	52 (8.2)	3.68	1.297
4	I tend to feel impatient with the rate at which most events take place.	197 (31.2)	221 (35.0)	82 (13.0)	73 (11.6)	59 (9.3)	3.67	1.280
5	I have very few interests outside my work.	217 (34.3)	231 (36.6)	81 (12.8)	67 (10.6)	36 (5.7)	3.83	1.176
6	I feel impatient when I do not have any work in hand.	183 (29.0)	227 (35.9)	106 (16.8)	69 (10.9)	47 (7.4)	3.68	1.210
7	I always feel rushed.	184 (29.1)	183 (29.0)	113 (17.9)	94 (14.9)	58 (9.2)	3.54	1.297

S/N	Type A behavioural patterns	SA n (%)	A n (%)	U n (%)	D n (%)	SD n (%)	Mean	Std. Dev.
8	I feel like having a quick meal.	194 (30.7)	158 (25.0)	114 (18.0)	96 (15.2)	70 (11.1)	3.49	1.355
9	Competition is my first choice.	178 (28.2)	175 (27.7)	116 (18.4)	80 (12.7)	83 (13.1)	3.45	1.362
10	I enjoy doing two or more things simultaneously.	210 (33.2)	174 (27.5)	95 (15.0)	94 (14.9)	59 (9.3)	3.60	1.328
11	Quantity is a measure of success for me.	220 (34.8)	223 (35.3)	72 (11.4)	74 (11.7)	43 (6.8)	3.80	1.226
12	I cannot relax without guilt.	208 (32.9)	212 (33.5)	82 (13.0)	75 (11.9)	55 (8.7)	3.70	1.277
13	I have always been struggling to achieve more in less time.	235 (37.2)	224 (35.4)	64 (10.1)	59 (9.3)	50 (7.9)	3.85	1.240
14	I am very particular about exhibiting my superiority whenever I play.	221 (35.0)	200 (31.6)	85 (13.4)	81 (12.8)	45 (7.2)	3.74	1.259
15	I have always lived the life of deadlines.	246 (38.9)	214 (33.9)	65 (10.3)	62 (9.8)	45 (7.1)	3.88	1.230
16	I take it as a privilege to display or discuss my achievements when opportunity arise.	221 (35.0)	236 (37.3)	68 (10.8)	58 (9.2)	49 (7.8)	3.83	1.222
17	I have never found time sufficient for the task at hand.	221 (35.0)	222 (35.1)	64 (10.1)	69 (10.9)	56 (8.9)	3.76	1.278

Table 1 revealed that athletes with type A behaviour prefer to move around rapidly and when they are not occupied pre to finish the task at hand as soon as possible. These were indicated with mean scores of 3.64 and 3.55 in the table. Most (25.5% and 41.9%) of the athletes were in agreement with this opinion in the first item while 32.9% along with 26.1%) of the athletes were in agreement with the behavioural disposition in the second item of the table. As a trait of type A behavior, the athletes were of the view that they were never late if they had appointments. This is indicated by 34.5% and 29.6% of the athletes who strongly agreed and agreed respectively. The mean score for the behavior was 3.68 with a standard deviation of 1.297. As part of the type A behavior, 31.2% and 35.0% of the athletes were in agreement that they usually feel impatient with the rate at which most events take place. The mean score was 3.67. In line with the type A behavior, 34.3% and 36.6% were in agreement with the trait of having very few interests outside their main work. The mean score was 3.83 and they usually feel impatient when they do not have any work in hand with a mean score of 3.68. Athletes who strongly agreed with the trait were 29.0 while 35.9% agreed with the trait.

Among the type A behaviours is the habitual feeling of having quick meals which 30.7% and 25.0% of the athletes strongly agreed and agreed respectively was part of their disposition. The mean score was 3.49 which suggested that most athletes with type A behaviors exhibited the characteristic. Part of the type A behaviour is the preference for competitions which 28.2% and 27.7% of the athletes agreed would be their first choice if alternatives were to be presented. As part of the type A behavior, 33.2% and 27.5% of the athletes strongly agreed and agreed respectively that they enjoy doing two or more things simultaneously. The mean score was 3.60 and 34.8% along with 35.3% of the athletes were in agreement with the suggestion that quantity was a measure of success for them. The mean score was 3.80 which implied that this was another major type A behavior among the athletes. This trait aligned with the agreement with the suggestion that refusal to relax without guilt which was scored with a mean of 3.70 by the athletes. Another type A behavioral trait exhibited by the athletes is struggling to achieve more in less time which 37.2% and 35.4% strongly agreed and agreed respectively that they exhibited or part of their disposition. The mean score was 3.85 which showed that most of the athletes exhibited the behavioral trait. Another train was being very particular to exhibit superiority whenever they were performing in their respective games. In the table, 35.0% and 31.6% of the athletes strongly agreed and agreed with this behavioral trait and the mean score was 3.74 which was an indication that most of the athletes possess the trait.

Another type A behaviour was the urge to meet up with deadlines which 38.9% and 33.9% of the athletes strongly agreed and agreed was part of the behavioural dispositions. The mean score of 3.88 clearly indicated that the trait was common among athletes of type A behaviors involved in the study. As part of the type A behavior 35.0% and 37.3% of the athletes strongly agreed and agreed that they usually take it as a privilege to display or discuss their achievements when opportunity arise and 35.0% along with 35.1% of the athletes strongly agreed and agreed with the suggestion that they do not usually never find time sufficient for the task at hand which could be associated with the type A behavior. The table showed that athletes with type A behavior have peculiar traits that differentiate them from those with type B.

2. What are the Type B behaviour patterns among Athletes in Taraba State, Nigeria? Athletes'

Type B behaviour pattern in Taraba State, Nigeria

Characteristics of athletes with Type B behaviours

The opinions of the athletes on type B behavioral patterns are shown on a five-point Likert scale along with computed mean scores and standard deviations in Table 2.

Table 2: Opinions of athletes on type B behaviours

S N	Type B Behavioural patterns	SA	A	U	D	SD	Mean	Std. Dev.
1	I do not work under time pressure	147(23.3)	263(41.0)	82(13.0)	86(13.6)	53(8.4)	3.58	1.22
2	I do not display or discuss my achievements or accomplishments unless such exposure is demanded	151(23.9)	258(40.8)	90(14.2)	79(12.5)	54(8.5)	3.59	1.218
3	I have never set deadlines for my accomplishments.	162(25.6)	268(42.4)	73(11.6)	74(11.7)	55(8.7)	3.65	1.225
4	I play for fun and relaxation	153(24.2)	274(43.4)	67(10.6)	81(12.8)	57(9.0)	3.61	1.234
5	I relax whenever I want to do so.	163(25.8)	254(40.2)	84(13.3)	80(12.7)	51(8.1)	3.63	1.22
6	I do not give much weight to quantity in comparison to other Measures of success.	139(22.0)	281(44.5)	75(11.9)	73(11.6)	64(10.)	3.57	1.236
7	Prefer to concentrate on one task at a time.	170(26.9)	269(42.6)	81(12.8)	64(10.1)	48(7.6)	3.71	1.185
8	I enjoy my food, making no haste while eating.	98(15.5)	210(33.2)	125(19.8)	116(18.4)	83(13.1)	3.2	1.287
9	I never feel rushed.	103(16.3)	289(45.7)	94(14.9)	85(13.4)	61(9.7)	3.46	1.193
10	Leisure time is welcome after a spell of work	95(15.0)	241(38.1)	124(19.6)	98(15.5)	74(11.7)	3.29	1.234
11	I am open in expressing my feelings.	93(14.7)	257(40.7)	111(17.6)	111(17.6)	60(9.5)	3.34	1.2
12	I have many interests outside my work.	114(18.0)	254(40.2)	106(16.8)	97(15.3)	61(9.7)	3.42	1.222
13	I am comfortable with the rate at which most events take place.	89(14.1)	260(41.1)	109(17.2)	100(15.8)	74(11.7)	3.3	1.23
14	I take appointments casually.	93(14.7)	262(41.5)	115(18.2)	91(14.4)	71(11.2)	3.34	1.218
15	I prefer to complete the tasks at hand slowly.	98(15.5)	312(49.4)	96(15.2)	69(10.9)	57(9.0)	3.51	1.15
16	I prefer to sit in one place when I am not doing anything.	88(13.9)	316(50.0)	101(16.0)	67(10.6)	60(9.5)	3.48	1.145

Among the type B behavioral traits of the athletes is the unwillingness to work under pressure. In Table 2, 23.3% and 41.7% of the athletes strongly agreed and agreed with this trait and the mean score was 3.58 which implied that most of the athletes agreed with the trait. In line with the type B behavior, 23.9% and 40.8% of the athletes strongly agreed and agreed with the suggestion that they do not usually display or discuss their individual achievements or accomplishments unless such exposure is demanded by prevailing exigency. The mean score (3.59) was higher than the midpoint average (3.00). In the same vein, athletes with type B behaviors do not set a deadline for any accomplishment. In the table, 25.6% and 42.4% of the athletes strongly agreed and agreed with this suggestion and the mean score was 3.65. Part of the type B behavior among the athletes is the disposition of playing for fun. In the table, 24.2% and 43.4% of the athletes strongly agreed and agreed respectively with this trait with a mean score of 3.61. And 25.8% along with 40.2% of the athletes strongly agreed and agreed respectively that they usually relax whenever they want to do so. This explained another trait which 22.0% and 44.5% strongly agreed to in the table where the athletes agreed with a mean score of 3.57 that they do not give much weight to quantity in comparison to other measures of success.

As part of the type B behavior, 26.9% and 42.6% of the athletes strongly agreed and agreed respective with the suggestion that they would prefer to concentrate on one task at a time rather than engaged in multiple tasks and do not hasten themselves while eating as indicated with a mean score of 3.20 for the suggestion. Athletes of Type B behavior never feel like rushing into situations or things as indicated by 16.3% and 45.7% who strongly agreed and agreed respectively and with a mean score of 3.46. Such athletes always prefer leisure time after a spell of work. This is indicated with a mean score of 3.29 in the table and was always open in expressing my feeling as indicated by 14.7% and 40.7% who strongly agreed and agreed with a mean score of 3.34 in the table. As part of the type B behaviors, 18.0% and 40.2% of the athletes strongly agreed and agreed respectively that they had interests outside their routine works. The mean score (3.42) was higher than the midpoint average. In the same view, 14.1% and 41.1% athletes strongly agreed and agreed that they were comfortable with the rate at which most events usually take place. The mean score of 3.30 indicated that this was a general trait among the athletes with type B behavior. Another trait in the behavioral disposition is the casual approach to appointments. In the table, 14.7% and 41.5% of the athletes strongly agreed and agreed respectively that they usually take appointments casually and 15.5% along with 49.4% of the athletes strongly agreed and agreed respectively that they prefer to complete the tasks at hand slowly. In like manner, athletes with type B behavior would prefer to sit at one place when they are not doing anything. This was indicated by 13.0% and 50.0% of the athletes who strongly agreed and agreed with the suggestion. The mean score was 3.48 which was a clear indication that the trait cut across most type B behavior athletes.

Frequency of injuries among the athletes

The frequency of injuries were determined by the part of the body affected and were measured in terms of severity. Table 3 showed opinions of the athletes on the frequencies of injuries experienced while participating in sports activities.

Table 3: Opinions of athletes on type of injuries sustained

Frequency of injuries	Very Severe	Moderate	Not severe	Mean	Stddev
Head	138(21.8)	321(50.8)	173(27.4)	1.94	0.700
Neck	143(22.6)	288(45.6)	201(31.8)	1.91	0.736
Shoulder	182(28.8)	325(51.4)	125(19.8)	2.10	0.712
Upper arm	186(29.4)	339(53.6)	107(16.9)	2.14	0.699
Elbow	182(28.8)	350(55.4)	100(15.8)	2.13	0.656
Lower arm	176(27.8)	356(56.3)	100(15.8)	2.15	0.717
Wrist and hand	168(26.6)	348(55.1)	116(18.4)	2.09	0.675
Chest	160(25.3)	356(56.3)	116(18.4)	2.08	0.676
Trunk and abdomen	198(31.3)	331(52.4)	103(16.3)	2.17	0.717

Frequency of injuries	Very Severe	Moderate	Not severe	Mean	Stddev
Thoracic spine	198(31.3)	345(54.6)	89(14.1)	2.18	0.673
Lumbar spine	227(35.9)	355(56.2)	50(7.9)	2.29	0.621
Pelvic and buttocks	256(40.5)	323(51.1)	53(8.4)	2.35	0.704
Hip and groin	208(32.9)	350(55.4)	74(11.7)	2.23	0.675
Thigh	175(27.7)	373(59.0)	84(13.3)	2.14	0.624
Knee	203(32.1)	347(54.9)	82(13.0)	2.19	0.647
Lower leg	218(34.5)	314(49.7)	100(15.8)	2.19	0.685
Ankle	234(37.0)	326(51.6)	72(11.4)	2.26	0.647
Foot	284(44.9)	287(45.4)	61(9.7)	2.35	0.650
Disabled	258(40.8)	336(53.2)	38(6.0)	2.35	0.590

The opinions in Table 3 revealed that most injuries sustained by the athletes were generally moderate in terms of severity. Those included injuries on head (50.8%), Neck (45.6%), Shoulder (51.4%), Upper arm (53.6%), Elbow (55.4%), Lower arm (56.3%), Wrist and hand (55.1%), Chest (56.3%) Trunk and abdomen (52.4%). Thoracic spine (54.6%), Lumbar spine (56.2%),

Pelvic and buttocks (51.1%), Hip and groin (55.4%), Thigh (59.0%), Knee (54.9%), Ankle (51.6%) and general disabled (53.2%). Injuries on the lower part of the legs like foot (44.9%) along with pelvic and buttocks (40.0%) were relatively severe compared to those that affected other parts of the body. Percentages of athletes that sustained very severe injuries on other parts of the body were relatively low as indicated in the table.

Gender differential in type A, type B and frequencies of injuries among the athletes

A two-sample Mann-Whitney U test was used to compare the opinions of the male and female athletes on type A and type B behaviors along with frequency of injuries among the athletes. Table 4 showed a summary of the comparison.

Table 4: Mann-Whitney two samples U test on type A and type B behaviors along with frequency of injuries among the athletes by gender

Variables	Gender	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Z	p-value
Types	Male	452	12.50	141250.50	38872.500	-0.875	0.382
	Female	180	326.54	58777.50			
	Total	632					
Typeb	Male	452	307.99	139210.50	36832.500	-1.861	0.063
	Female	180	337.88	60817.50			
	Total	632					
Injuries	Male	452	321.50	145318.00	38420.000	-1.096	0.273
	Female	180	303.94	54710.00			
	Total	632					

The males and female athletes were not significantly different in their type A, type B behavioral dispositions and the frequencies of injuries experienced. For type A behaviors, the observed Mann-Whitney U value was 38872.500 with a p-value of 0.382 ($p > 0.05$). The Mann-Whitney U value obtained for type B behaviors was 36832.500 with a p-value of 0.063 ($p > 0.05$). For the frequencies of injuries, the Mann-Whitney U value obtained was 38420.000 with a p-value of 0.273 ($p > 0.05$). These observations clearly indicated that the males and female athletes were not significantly different in their

type A and type B behavioral dispositions along with incidences of injuries experienced in their sports' activities.

Athletes of type A and type B behavior patterns' relationship with frequency of injuries The relationship between Type A and Type B behavior patterns with frequency of sport injuries among the athletes was determined with the Spearman rho correlation procedure as summarized on a pairwise basis in Table 5.

Table 5: Correlation between type A, type B behavior patterns and frequency of sport injuries among the athletes

Variable	N	Mean	Std. Dev.	r-calc.	df	p-value
Type A behavior	632	3.69	0.652	0.027	630	0.492
Injuries	632	2.14	0.176			
Type B behavior	632	3.48	0.337	0.046	630	0.253
Injuries	632	2.14	0.176			
Type A behavior	632	3.69	0.026	0.200	630	0.200
Type B behavior	632	3.48	0.013			

The result of the test did not reveal a significant relationship between the frequencies of injuries and the type A and type B behaviors of the athletes. In the table type A behaviors of athletes were positively correlated with the incidence of injuries but the relation was not significant, observed p-value was 0.492 ($p > 0.05$). For type B behaviors, the relationship was positive but it was not significant. The coefficient of correlation obtained was 0.046 with a p-value of 0.253 obtained at 630, degree of freedom (df). The type A and type B behavior of the athletes were significantly and positively correlated. Observed coefficient of correlation was 0.200 with a p-value of 0.000 ($p < 0.05$). These observations implied that athletes' behavior may not necessarily influence the frequency of injuries they experienced in their sports; activities in the state.

DISCUSSIONS

This study revealed that athletes exhibit two major behavioural patterns which were type A where anxiety, time urgency, impatience, which causes irritation and exasperation dominates, type B where the free or laissez faire reaction tended to rule actions of athletes. The study revealed that behavioural patterns of athletes were not significantly associated with the incidence of injuries they experienced in the sports' activities. This finding supported the report of previous study by Dacus, Castagno, Castagno, Gontre, & Weiss (2023) who stated that sports injuries can affect athletes across all ages, sexes, and levels of competition but contradicted the assertion that acute traumatic Type A behaviour pattern results in athletes' sports injury. The findings of this study did not significantly associate frequencies of injuries to behavioral dispositions of athletes. The findings supported the report of Nigorikawa, Oishi, Yasukawa, Kamimura, Murayama, and Tanaka (2018) who indicated that most concern causes of sports injuries were mainly the physical factors. The study did not reveal significant differences in the behavioral patterns, type A and B along with incidence of injuries between males and female athletes involved in sports' activities in the state.

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