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Basic Psychological Needs and Organizational Stress among Student-athletes in Nigeria.

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Abstract

Organizational stress poses a lot of threat on student-athletes unique population and causes numerous undesirable consequences, which affect their well-being, academic, personal life and sport performance. The aim of this study was to examine the influence of basic psychological needs on organisational stress among student-athletes in Nigeria. This study employed correlational descriptive research design. The participants were 200 student-athletes that participated in 2022 NUGA held in Lagos, Nigeria. Convenient sampling method was used to select the sample size. The participants completed Basic Need Satisfaction in Sport Scale (BNSSS) and the Organizational Stressor Indicator for Sport Performers (OSI-SP) to collect data. Data analysis was conducted using Pearson Product Moment Correlation (PPMC) and multiple regression analysis. The results of the study showed that there was significant positive correlation between autonomy and organisational stress ($r=0.181$, $p<0.05$); relatedness and organisational stress ($r=0.204$, $p<0.05$), Regression analysis showed that joint contributions of basic psychological needs accounted for about 53% of variance influencing dependent variable. Relatedness was only found to have relative significant contribution on organisational stress. It can therefore be concluded that fulfilling and satisfying the basic psychological needs of student-athletes can reduce organisational stress and enhance performance and overall well-being.

Keywords: basic psychological needs, autonomy, competence, relatedness, organizational stress

Introduction

Organizational stress in sport is an ongoing area of interest and concern that has received great attention in sport psychology since its induction in almost two decades (Woodman & Hardy, 2001). Organizational stress causes numerous undesirable consequences for athletes. It poses a lot of threat on student-athletes' psychological and physical health (Roberts, Arnold, Turner, Colclough & Bilzon, 2019), not been selected for competition and dropout (Rothwell, Rumbold & Stone, 2020), and sleep disturbances (Rumbold, Fletcher & Daniels,

2018). Rumbold, Fletcher and Daniels (2012) suggested that when athletes at any category are under difficulties from the demands of their choosen sport and do not have required coping skills, such can result into declined individual and team performance. Deci and Ryan's (2000) basic psychological needs theory postulates that when the three basic psychological needs (i.e., autonomy, competence and relatedness) essential for a healthy growth and development are fulfilled, this will enhance the individual's strong-will, quality motivation, resilience, performance, stability and creativity. Basic psychological needs have been found to influence athletes' various activities to process stressful situations openly, cope with adversities confidently and relate with significant others to overcome challenges (Vansteenkiste & Ryan, 2013). Investigating influence of basic psychological needs on organizational stress of Nigerian University Games Association student-athletes is a vital issue to address by sport scientists and sport policy makers in order to promote holistic health development programme for the concern student-athletes population.

Fletcher, Hanton and Mellalieu, (2006) define organizational stress as an ongoing transaction between an individual and the environmental demands associated primarily and directly with the organization within which he or she is operating. (p. 329). Arnold, Edwards and Rees (2018) noted that athletes' organisation includes their sport environment (e.g., coaches, teammates, administration) and the field of play or court as their place of work. Stressors experienced by athletes within their organisation (sport environment) can lessen the commitment and proliferation of individual and team in terms of improving success and skill.

Fletcher and Arnold (2017) identified and categorized organisational stressors in sports into four. First, leadership and personnel issues (e.g., coach's personality, attitude and style expectations, support staff, sports officials, spectators, media and governing body). Second, team culture and issues (e.g., teammates' behaviours and interactions, team atmosphere and support, roles and goals). Third, logistical and environmental issues (e.g., facilities and equipment, team selection, competition strategy, structure of training, travelling, accommodation, distractions, rules and regulations, physical safety and technology). Fourth, performance and personal issues (e.g., nutrition, injury, finance and career transitions). Studies have shown that athletes experience organisational stress which in turn affect their well-being and performance (Mefferd, 2021; Hanton, Fletcher & Coughlan, 2005; Gustafsson et al., 2008; Roberts et al., 2019). Mefferd, (2021) found that when athletes encounter higher organisational stress, they are likely to report feeling burnout and disengaged from their sport. In the same vein, Larner et al. (2017) found that the regular experience of organisational stressors was statistically associated with experiences of burnout symptoms. In their study, Hanton et al. (2005) discussed that athletes recall organisational stressors frequently than competition stressors.

Basic psychological needs theory (BPNT; Deci & Ryan, 2000) is a sub-theory within self-determination theory (SDT) framework. It postulates that the development and maintenance of psychological well-being and optimal functioning is grounded on the fulfilment of three basic psychological needs (autonomy, competence and relatedness). Autonomy reflects a need for individuals to have a choice or feel responsible for their own behaviour. Competence reflects ability to master or efficiently interact with environment and have confidence in achieving one's desired outcomes. Relatedness reflects the degree to which an individual feels sense of belonging, and connected to significant others (Deci & Ryan, 2000). Yarkın (2014) asserted that when the basic psychological needs are satisfied, individuals increase their efforts for their goal, use their ability effectively, and therefore, raise their well-being. However, inability to satisfy these three basic psychological needs is expected to hamper growth and development. BPN has been found to influence a wide range of outcomes such as physical health, life satisfaction, stress, burnout, vitality, sport

satisfaction, self-trust, physical activities, stress-related growth after athletic injury (Bartholomew et al., 2011; Ng et al., 2012; Teixeiraet al., 2018; Rodrigues et al., 2018; Mefferd, 2021; Li et al., 2019; Contreira et al., 2019; Montero & Lopez, 2014; Gholidahaneh, Ghorbani & Esfahaninia, 2020). In addition, each element of BPN has been found to be associated with various factors such as social-related athlete identity and exclusivity-related social identity (Parker, Beeby & Daniels, 2022); dispositional flow (Coterón, 2013); motivation (Vieira et al., 2020; De Francisco, et al., 2020); and burnout (Vílchez Conesa et al., 2020)

The university environment within which student-athletes operate places great demands on them which affect their achievement and persistence. Research has shown that these populations are at risk of stress and the negative effects of stress experiences as organisational stress poses a threat on the student-athletes psychological and physical health (Fletcher & Arnold, 2017; Arnold & Fletcher, 2012). Nigerian Universities Games Association (NUGA) is an avenue where more than seventy (70) universities in Nigeria meet and participate in various sporting competitions every two years. Despite the agreement on participation in various competitions by the universities, very few Nigerian universities give concerns to the athletic performance and well-being of their student-athletes. Ladani (2008) revealed that many Nigerian universities do not have modern facilities, equipment and personnel for developed and standard sports competition that contribute to effective and efficient organisation of sports. The author added that there seems to be a little or no nexus between the State Sports Councils coaches, Ministry of Sports officials and the university efforts to produce star athletes. Also, Omoniyi (2022) interviewed five student-athletes that participated in the NUGA 2022 in Lagos and identified that the short duration of the games, accommodation and welfare issues, fatigue among others were major challenges encountered as student-athletes. Jeroh (2005) showed that serious motivation strategies are either absent or not properly utilized by university coaches and sports administrators for sports development in the university's setting.

Studies have found that organisational stressors experienced by student-athletes include, not been selected for competition, inadequate social support, college transition, financial burden, mental health and academic ability, authoritarian leadership styles and teammates' leadership and relationship issues (Fransen et al., 2020; Ting, 2009; Larner et al., 2017; Tabei et al., 2012). Rumbold, Fletcher and Daniels (2012) indicated that when athletes at any level are under pressure arising from the demands of their chosen sports and do not have required coping skills in which their basic psychological needs are not satisfied, therefore student-athletes may experience performance slump which could affect both individual's and team as a whole. Despite significant influence of BPN on various parameters in sport milieu, little is known on organisational stress among student-athletes in Nigeria especially among NUGA student-athlete participants. It is therefore imperative to investigate influence of basic psychological needs on organisational stress among NUGA student-athletes.

Research Question

Answer was provided for this research question

1. Is there any relationship between basic psychological needs and organisational stress among student-athletes in Nigeria?

Hypotheses

These hypotheses were tested in the study;

1. Basic psychological needs (autonomy, competence and relatedness) will not jointly and significantly influence organizational stress among student-athletes in Nigeria.

2. Basic psychological needs (autonomy, competence and relatedness) will not relatively and significantly influence organizational stress among student-athletes in Nigeria.

Methodology

A descriptive research design of correlational type was adopted for the study. The participants were two hundred (200) (male = 117, female = 83) student-athletes who participated in Nigerian University Games Association (NUGA) 2022 held at University of Lagos, Lagos State, Nigeria. Convenience sampling method was used to select the participants because of the short duration of the competition and no enough free moment for the student-athletes. The age range was between 18 and 32years. The sports represented in the study are; (athletics n=29, volleyball n=33, cricket n= 19, football n=28, handball n=22, badminton n=09, Judo n=13, table tennis n= 16, swimming n=13, hockey n= 18).

The instruments employed include self-structured questionnaire. First, the Basic Need Satisfaction in Sport Scale (BNSSS; Ng, Lonsdale, & Hodge, 2011) was used to measure basic psychological need satisfaction of the participants. The BNSSS is a 20-item inventory with three subscales of autonomy (10 items e.g., "In my sport, I get opportunities to make choices."), competence (5 items e.g., "In my sport, I get opportunities to make use of my skills") and relatedness (5 items e.g., "I have close relationships with people in my sport"). The scale was measured on 7-point Likert scale (1 = not true at all to 7 = very true). The reported internal consistencies of the subscales were .68, .81 and .96 on Cronbach's alpha scale. Second, the Organizational Stressor Indicator for Sport Performers (OSI-SP; Arnold et al., 2013) was used to assess organisational stressors the participants experienced with their involvement in competitive sports during the past month. The OSI-SP is 23-item questionnaires consist of five (5) subscales: goals and development (six items), logistics and operations (nine items), team and culture (four items), coaching (two items), and selection (two items). Each item is responded to on three separate 6-point Likert rating scales: frequency ("how often did this pressure place a demand on you?"; 0 = never, 5 = always), intensity ("how demanding was this pressure?"; 0 = no demand, 5 = very high), and duration ("how long did this pressure place a demand on you for?"; 0 = no time, 5 = a very long time). The reported internal consistencies of the subscales were between .63 and .92 on Cronbach's alpha scale

The questionnaires were completed anonymously, and participants responses were guaranteed to be kept strictly confidential and used only for research purpose. Participants were asked to answer all questionnaires truthfully and independently. The instruments were administered and collected on the spot after the athletes' participation in various sports during their short leisure hours. The administration of the questionnaire was about 15 minutes. Data collected were analysed using descriptive statistics for demographic characteristics of the participants and inferential statistics of Pearson Moment Correlation Coefficient and multiple regression for research question and hypotheses respectively.

Results

Table 1: Correlation matrix showing the relationship between basic psychological needs and organizational stress among student-athletes in Nigeria

Variables	Variables			
	Organisational stress	Autonomy	Competence	Relatedness
Organisational stress	1			
Autonomy	.181*	1		
Competence	.079	.004	1	
Relatedness	.204**	.148	.110	1
Mean	11.46	59.63	11.26	34.28
Standard Dev	2.87	8.70	3.43	7.37

**Correlation is significant at 0.01 (2-tailed); *Correlation is significant at 0.05 (2-tailed)

Table 1 showed the inter-correlational matrix of the relationship between basic psychological needs and organisational stress. The table revealed that autonomy (r=0.181, $p<0.05$) and relatedness (r=0.204, $p<0.05$) had positive and significant correlation with organizational stress among student-athletes; while competence (r=0.079, $p>0.05$) did not. It means that an increased influence of autonomy and relatedness had positive and significant correlation with organisational stress; while competence did not.

Hypothesis 1: Basic psychological needs (autonomy, competence and relatedness) will not jointly and significantly influence organizational stress among student-athletes in Nigeria.

Table 2: Summary of multiple regression of joint basic psychological needs on organisational stress

R=.259 R^2=.067 Adj. R^2=.053 Std. Error=2.79154						
Model	Sum of Squares	df	Mean Square	F	Sig. (*p* value)	Remark
Regression	110.231	3	36.744	4.715	.003	Significant
Residual	1527.364	196	7.793			
Total	1637.595	199				

As indicated in table 2, it was found that the linear combination of basic psychological needs of autonomy, competent and relatedness tested significant on organisational stress among student-athletes ($F_{(3,196)}$=4.715, $p<0.05$). The result yielded a coefficient of multiple regression of R=0.259 and multiple R-square of 0.067. The result also revealed the adjusted R^2=0.053; indicating that about 53% of variance was accounted for by the independent variables. The null hypothesis was therefore rejected. This implies that basic psychological needs of autonomy, competence and relatedness jointly and significantly influence organisational stress among NUGA student-athletes.

Hypothesis 2: Basic psychological needs (autonomy, competence and relatedness) will not relatively and significantly influence organizational stress among student-athletes in Nigeria.

Table 2: Summary of multiple regression of relative basic psychological needs on organisational stress

Variables	Unstandardized Coefficients		Standardized Coefficients ß	T	Sig. (*p* value)	Remark
	B	Std. Error				
(Constant)	6.339	1.719		3.688	.000	
Autonomy	.019	.023	.059	.841	.401	Not Sig.
Competence	.070	.058	.084	1.210	.228	Not Sig.
Relatedness	.092	.027	.238	3.380	.001	Significant

Table 2 showed autonomy, competence and relatedness the unstandardized regression weight (ß), the standardized error of estimate (SEß), the standardized coefficient, the t-ratio and the level at which the t-ratio were significant. As indicated in the table, relatedness (ß=0.238, t=3.380, $p<0.05$) was tested significant on organisational stress; while autonomy (ß=0.059, t=0.841, $p>0.05$) and competence (ß=0.084, t=1.210, $p<0.05$) did not.

Discussion

This present study was conducted to focus on the influence of basic psychological needs on organisational stress student-athletes in Nigeria. The results of the present study showed a significant positive relationship between autonomy and organisational stress; relatedness and organisational stress, and no relationship between competence and organisational stress of NUGA student-athletes. This supports the findings of Vílchez Conesa et al. (2020) that there was positive relationship between autonomy and burnout. Ryan and Deci (2002) asserted how crucial the autonomy factor is among the three basic psychological needs as it has a high positive relationship with intrinsic motivation; and also supported by Reeve, Nix and Hamm (2003) that autonomy is the ability to feel free and act without pressure.

As regard the hypothesis on influence of joint contribution of basic psychological needs on organisational stress, it was found that there was joint significant influence of basic psychological needs on organisational stress. This implies that meeting the demand of BPN will reduce the organisational stress encountered by the NUGA student-athletes, while low level of BPN will increase their organisational level. This supports the Ryan and Deci's (2000) proposal that the satisfaction of the three basic psychological needs (autonomy, relatedness, and competence) will increase the individual's strong-will, quality motivation, resilience, performance, stability and creativity. The results of this finding coincide with Mefferd (2021) that all the three BPN components were significant predictors of burnout. The athletes reported lower level of emotional and physical exhaustion, sport devaluation and higher levels of athletic accomplishment.

Similarly, Montero and Lopez (2014) found that there was increase in self-trust prior to competition as a result of satisfied BPN among Judo athletes; while Gholidahaneh, Ghorbani and Esfahaninia (2020) indicated that children with a higher satisfaction in BPN (autonomy, competence and relatedness) engaged more in physical activities than their counterparts that had with a lower sense of BPN satisfaction. Wadey et al. (2015) affirmed that basic psychological needs satisfaction in the rehabilitation setting was positively correlated with stress-related growth after athletic injury.

The results of hypothesis 2 revealed that only relatedness was found to be relatively significant among other BPN components. This shows that satisfaction of relatedness aspect of BPN will reduce organisational stress among NUGA students-athletes. This can be attributed to that fact that significant others such as team management, coach, parents, teammates, etc. play substantial roles in reducing and increasing the organisational stress of student-athletes. Student-athletes need more social supports to be able to function maximally in both their chosen sport and academic pursuit. This finding corroborates with the study carried out by Meffered (2021) that the coach plays a critical role in creating a certain climate for their athletes, which can either help them avoid burnout or can contribute to the experiencing stress and burnout. Graupensperger et al., (2020) indicated that feeling connected and sense of belonging in sport is strongly tied to social-related athlete identity. Parker et al. (2022) found that athletes' levels of relatedness aspect of BPN were positively correlated with exclusivity-related athlete identities that reflected how focused they are on their organized sport. The result of Vieira et al. (2020) is against the findings of this present study where the authors found that relatedness dimension of BPN was not significantly correlated with intrinsic motivation, but reported moderate correlation with extrinsic motivation.

Conclusion

The findings of the study showed that there is significant positive relationship between basic psychological needs and organisational stress. The study revealed that there is significant joint influence of basic psychological needs on organisational stress of the participants. The study added that relatedness aspect of basic psychological needs has relative significant influence on organisational stress of NUGA student-athletes, while autonomy and competence were not.

Overall, this study provides insight into the cogent roles and positive implications of influence of basic psychological needs satisfaction on organisational stress among NUGA student-athletes. Development and inculcation of special programmes for this population on satisfying the basic psychological needs is needed so as to foster their overall well-being, performance, reduce stress and enhance optimum recovery. Sport psychologists, sport administrators, coaches, teammates, parents together with the university authorities have substantial roles to play in supporting their student-athletes to maintain good health status and encouragement when they are under pressure or being stressed.

Limitations

This study has some limitations. The cross-sectional design used in this study does not allow inference to be drawn with respect to causal relationship among studied variables, therefore limiting the generalization of the study. Future studies should consider experimental research design to allow manipulation of variable and cause-effect relationship. Also, the study considered only small sample size of student-athletes that participated in the 2022 NUGA in Lagos, Nigeria and convenient sampling method was used. Further studies should recruit larger sample size with unconventional sampling method in order for the results to be well represented of the population. Only linear relationships between the variables were considered in this study with Pearson Product Moment Correlation and multiple regression analysis. Future studies should consider multi-level relationships among the variables with employment of higher statistical analysis of structural equation modelling.

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