# Perceived stress and coping skills of university student-athletes and the relationship with life satisfaction

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## Abstract

Student-athletes are expected to cope with their studies and participation in sport simultaneously as well as to satisfy the expectations of coaches, teammates, friends, and family. Once student-athletes perceive a situation as stressful and struggle to cope with the anticipation thereof, their satisfaction with life will be negatively influenced. This study was conducted to determine the relationship between perceived stress and coping skills with satisfaction with life of university students-athletes. A purposive sample of 500 first, second and third year as well as post graduate university student-athletes competing at university, national, provincial and regional level were drawn. A questionnaire including the Perceived Stress Scale (PSS-10), the Satisfaction With Life Scale (SWLS), and the Athletic Coping Skills Inventory-28 (ACSI-28) were administered to the sample. Descriptive statistics, bivariate correlation analysis, and multiple linear regression analysis were used to report the results of the study. The results indicated that student-athletes were moderately satisfied with their life and perceived their stress as slightly higher than average. A negative significant relationship was found between perceived stress and satisfaction with life, as well as between perceived stress and five coping skills subscales (coping with adversity, goal setting/mental preparation, freedom from worry, confidence and achievement motivation, coachability). A positive significant relationship was found between satisfaction with life and the five coping skills subscales. This study concluded that student-athletes perceived stress level and two coping skills (freedom from worry and goal setting/mental preparation) were important and contribute significantly to their life satisfaction.

**Keywords:** Coping skills, life satisfaction, stress, student-athletes.

## Introduction

With increased professionalisation in sport there has been a corresponding increase in the number of participants as well as the level of competition. The level of competition is not just restricted to the sport field but also to Higher Education Institutions (HEIs) which offer opportunities in sport for students to participate and compete in. At HEIs the competition is associated with getting seats in the different academic programmes as well as being affiliated to the Sports Bureau or Sport Academy. Students who are fortunate enough to be

accepted into the academic stream as well as being affiliated to the Sports Bureau or Sport Academy belong to the student-athlete population of the HEI.

Student-athletes represent a distinct population at universities and colleges (Martens, Dams-O'Connor & Beck, 2006). They face many challenges such as balancing their academic and athletic lives, maintaining high levels of performance, social isolation, responding to or anticipating possible exclusion from the team and maintaining multiple relationships with friends, academics and coaches (Ford, 2007; Harvey, 1999; Parham, 1993). Student-athletes are influenced by various stressors such as regimented schedules (Carodine, Almond & Gratto, 2001), time constraints (Singh & Surujlal, 2006; Carodine et al., 2001); physical stress and fatigue (Van Zyl, Surujlal & Singh, 2009), commitment to attend practice sessions and games (Olivares, 2005) and performing a dual role as both athlete and student (Singh & Surujlal, 2006) which result in increased physical and psychological demands on them (Stilger, Etzel & Lantz, 2001). They are expected to maintain a full study load as well as devote time to games, practice, individual workouts, medical treatment, physical therapy, and a host of other sport-related activities (Singh & Surujlal, 2006; Olivares, 2005).

In addition to unwarranted time demands for student-athletes as well as social seclusion from their non-athlete peers (Martens et al., 2006), student-athletes experience the need to satisfy the expectations of coaches, fans and family. This puts them under tremendous pressure thereby contributing to increased stress levels.

While student-athletes also experience gratifying benefits such as enjoyment associated with sport participation, the opportunity to pursue one's athletic goals, being in the limelight and enjoying higher social status than most non-athletes (Harvey, 1999; Royal & Rossi, 1993), the challenges that student-athletes face may sometimes outweigh the benefits. Martens et al. (2006) suggest that the unique social and academic challenges that student-athletes face place them at an increased risk for developmental and psychological problems which could result in their experiencing several stressors during their athletic careers (Kausar, 2010). A combination of these stressors could possibly negatively influence both their health (Wilson & Pritchard, 2005) as well as their life satisfaction. As a result student-athletes may often be called upon to re-examine and reassess their experiences to maintain equilibrium of the various facets of their lives (Kimball & Freysinger, 2003).

Miller and Kerr (2002) proposed three motives for student-athletes' participation in sport. Firstly, they have a love and passion for sport; secondly they seek personal satisfaction associated with training and competition and thirdly they are driven by the need to prove their athletic ability to themselves and others.

The attainment of these motives will improve the quality of life experienced by them and will contribute to their overall life satisfaction.

Student-athletes experience stressors in different ways. Pensgaard and Roberts (2000) posit that the level of stress experienced by student-athletes is dependent on whether events in their lives were expected or unexpected. Unexpected events, according to Dugdale, Eklund and Gordon (2002), contribute to higher levels of stress than those events which were anticipated by student-athletes. Furthermore, situational factors and individual differences play a significant part in the awareness and experience of stress (Pensgaard & Roberts, 2000). In order to respond to and cope with a situation that has been perceived to be stressful, Gan and Anshel (2006) suggest that student-athletes intentionally initiate a variety of strategies.

**Life satisfaction**

Cross-cultural studies reveal that different variables lead to happiness for people with different values and different goals (Diener, Suh, Lucas & Smith, 1999). Quality of life is embedded in values that bring meaning to one's life (De Filippo, 2004). Emerson (1985: 282) refers to it as 'the satisfaction of an individual's values, goals and needs through the actualisation of their abilities or lifestyle'. A person's quality of life will have an impact on his/her life satisfaction, where life satisfaction is defined as a cognitive evaluation by an individual of his/her life (Pavot, Diener, Colvin & Sandvik, 1991).

Life satisfaction includes information from the important domains of a person's life (Pavot & Diener, 2008). Therefore, conditions such physical wellbeing (e.g. health, fitness), material wellbeing (e.g. income, food, transport, possessions), social wellbeing (e.g. family relationships, friends, community acceptance), emotional wellbeing (e.g. moods, self-esteem, status, respect), developments and pursuits (e.g. work, leisure, education) impact on one's quality of life (Baum & Christiansen, 2005; Felce & Perry, 1995) and provides an integral judgement of how the person's life as a whole is going (Pavot & Diener, 2008).

Life satisfaction will be influenced by events or conditions that make individuals' circumstances better or worse (Pavot & Diener, 1993) indicating that student-athletes' satisfaction will depend on how much resources they have and how effectively they utilise their resources to ensure that the HEI's requirements in terms of academic performance and sporting excellence are met. In addition, student-athletes also need to look towards meeting their personal aspirations in terms of their development and social life. Student-athletes' participation in sport also plays a pivotal role in contributing to overall life satisfaction (Hawkins, Foose & Binkley, 2004) experienced by them. If they are excluded from participating or if there is an interruption in their routine, there is

every chance that they will experience lower levels of life satisfaction. According to Diener, Emmons, Larsen and Griffin (1985), the judgement of satisfaction is dependent upon a comparison of one's circumstances with what is thought to be an appropriate standard which each individual sets for him/herself.

The coping styles of student-athletes are affected by their personal influences (Kausar, 2010). Furthermore, their coping process is determined by a variety of factors which include gender, level of competition, skill level, sources of stress and their coping style (Gan & Anshel, 2006). There may be instances during which negative appraisals in competitive sport, such as harm/loss or threat, might warrant avoidance coping strategies that reduce stress intensity, thereby diverting the student-athlete's attention to the task at hand and perceived control of the situation (Anshel, Jamieson & Raviv, 2001). Coping styles used by student-athletes are dependent on the stressors experienced and the stressful occurrence they encounter (Anshel & Si, 2008; Holt & Hogg, 2002).

Kimball and Freysinger (2003) reported that participation in collegiate sport both buffers and generates stress. The authors found that the self-determination, social support, and companionship experienced in sport involvement helped moderate the experience of stress within sport itself as well as in the broader contexts of student-athletes' lives. In addition, sport participation is experienced as an enjoyable and satisfying activity that relieves and allows student-athletes to cope better with and negotiate some of their daily stress. Anshel and Wells (2000) suggested that coping skills can be improved through recognising the coping style of the athlete in reaction to a specific stressful occurrence. At the same time, sport participation was also a source of stress. Gender, race, and social class also emerged as important to the student-athletes' experiences of collegiate sport and stress (Kimball & Freysinger, 2003).

James and Collins (1997) found that the general sources of stress were competitive anxiety and doubts, social-evaluation and self-presentation, nature of competition, and not performing to the required standard. Most of these stressors appeared to heighten student-athletes' need to present themselves in a favourable way to the audience. This may suggest that student-athletes are concerned and sensitive about the impressions people form of them during their participation.

In a highly competitive world of sport, both nationally and internationally, student-athletes finds themselves under tremendous pressure to excel, compete successfully, meet academic demands and perform their own and expectations of others. In this regard they require special attention in terms of the support needed to nurture and develop them (Burnett, 2003). The inability of student-athletes to cope effectively with stress may lead to undesirable behaviours (Anshel & Si, 2008) which could contribute to poor life satisfaction experiences.

The purpose of this study was to examine the relationship between perceived stress and coping skills with life satisfaction of university students-athletes.

**Methodology**

Two methods of research were undertaken for the study. Firstly, a comprehensive literature study on student-athletes and life satisfaction was conducted. Secondly, an empirical study involving the administration of questionnaires to student-athletes from selected university campuses in the Southern Gauteng province of South Africa was undertaken.

*Sample*

The sample for the study was a purposive sample of 500 first, second and third year as well as post graduate university student-athletes competing at university, national, provincial and regional level. A total of 293 questionnaires were returned of which data analyses were conducted on 281 usable questionnaires.

*Instrument and procedure*

A four-part questionnaire was used for the study. In Section A, biographical information of the respondents was requested. Section B comprised 10 items from the Perceived Stress Scale (PSS-10) (Cohen, Kamarck & Mermelstein, 1983; Cohen & Williamson, 1988). This scale measures the degree to which situations in one's life are deemed stressful. Items in this section were scored from 0 (never) to 4 (very often). Four items (4, 5, 7 and 8) that were worded in a positive direction were reversed scored. The total scores of the items in this scale can range from 0 to 40 and higher scores indicate greater levels of stress.

Section C sought information on respondents' satisfaction with life. This section consisted of 5 items from The Satisfaction With Life Scale (SWLS) (Diener, Emmons, Larsen & Griffin, 1985). The items were scored on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The range of possible scores is from minimal satisfaction with life (5) to very high satisfaction with life (35), where a score of 20 represents the neutral point on the scale.

Section D sought information on how respondents coped with their problems and stressful situations in their lives. The Athletic Coping Skills Inventoty-28 (ACSI-28) (Smith, Schutz, Smoll & Ptacek, 1995) measured the individual coping skills within a sport context. It consists of seven subscales, namely coping with adversity, peaking under pressure, goal setting/mental preparation, concentration, freedom from worry, confidence and achievement motivation, and coachability. Each subscale comprised 4 items which were scored from 0 (almost never) to 3 (almost always). All four items in the freedom from worry subscale (7, 12, 19

and 23) and two items in the coachability subscale (3 and 10) were reverse scored. The total score in this section can range from 0 to 12 for each subscale.

Trained fieldworkers administered the questionnaires to university student-athletes at different sport events in which university student-athletes participated in the Gauteng province of South Africa. Every effort was made to ensure that the questionnaires were completed in the presence of the fieldworkers.

*Data analyses*

Statistical analyses were conducted in three stages using IBM SPSS Statistics 20. First, descriptive statistics were used to examine the demographic profile of the sample. Thereafter, bivariate correlation analysis was used to determine if there was a significant relationship between (a) quality of life and perceived stress, (b) perceived stress and coping skills subscales and (c) quality of life and coping skills subscales. Lastly, a multiple linear regression model was applied, where life satisfaction was the dependent variable and the independent variables were perceived stress and the seven subscales of coping skills. The full model and the stepwise model were applied.

**Results**

Data from two hundred and eighty one (281) questionnaires were analysed. The average age of the student-athletes was 19.56 years. Most student-athletes were full time (93.3%), first year students (56.7%) and female (56.9%). The majority of them participated in soccer (54.3%), followed by hockey (10%), rugby (8.2%), athletics (6.4%), basketball (4.3%), cricket (2.9%), tennis (1.8%) and other (12.1%). The highest level of sport participation was at university level (32.7%), followed by regional (25%), provincial (22.1%) and national (20.2%).

The mean and standard deviation for life satisfaction, perceived stress and the coping skills subscales are provided in Table 1. The mean score for life satisfaction was 23.60 with a standard deviation of 6.613, which indicated that student-athletes were moderately satisfied with their life. This is consistent with finding of previous studies (e.g. Pavot & Diener, 2008; Pavot & Diener, 1993; Pavot et al., 1991; Diener et al., 1985). The mean score for perceived stress was 18.96 with a standard deviation of 4.006, which indicated that student-athletes perceive their stress as slightly higher than average. Cohen et al.'s (1983) original study also found the perceived stress level as much higher than average. In a later study by Cohen and Williamson (1988), the mean for the sample was 13.02, indicating that the sample perceived their stress level as average.

The mean score of the seven subscales that contributed to student-athletes coping skills were close to 2, indicating that student-athletes *often* have to cope with

problems and stressful situations in their lives. However, student-athletes felt that they only have to deal *sometimes* ($\bar{x} = 1.30$) with their worry towards performances. This is consistent with Smith et al.'s (1995) findings, although the original sample felt that they only had to deal *sometimes* with their goal setting/mental preparation and *often* worried about their performances.

**Table 1**: Descriptive statistics of life satisfaction, perceived stress and the seven subscales of coping skills

|  | N | Mean | Standard deviation |
|---|---|---|---|
| Life satisfaction (SWLS) | 281 | 23.60 | 6.613 |
| Perceived stress | 281 | 18.96 | 4.006 |
| Coping with adversity | 281 | 1.96 | 0.578 |
| Peaking under pressure | 281 | 1.91 | 0.625 |
| Goal setting / mental preparation | 281 | 2.05 | 0.637 |
| Concentration | 281 | 1.93 | 0.514 |
| Freedom from worry | 281 | 1.30 | 0.642 |
| Confidence and achievement motivation | 281 | 2.18 | 0.493 |
| Coachability | 281 | 2.04 | 0.621 |

Table 2 provides three correlation analyses. The first analysis examined the relationship between perceived stress and life satisfaction. A negative significant relationship was found, indicating that the higher student-athletes perceived their stress level, the lower their satisfaction with life. The second correlation analysis examined the relationship between coping skills subscales and perceived stress. A negative significant relationship was found between perceived stress and five coping subscales (coping with adversity, goal setting/mental preparation, freedom from worry, confidence and achievement motivation, coachability). Thirdly, satisfaction with life was positively significantly correlated to five coping skills subscales (coping with adversity, goal setting/mental preparation, freedom from worry, confidence and achievement motivation, coachability).

**Table 2:** Correlation analysis to examine the relationship between coping skills subscales versus perceived stress and life satisfaction

|  | Perceived stress | Life satisfaction |
|---|---|---|
| Perceived stress | - | -0.366*** |
| Coping with adversity | -0.215*** | 0.174** |
| Peaking under pressure | -0.055 | 0.093 |
| Goal setting / mental preparation | -0.151* | 0.223*** |
| Concentration | -0.007 | 0.023 |
| Freedom from worry | -0.351*** | 0.320*** |
| Confidence and achievement motivation | -0.213*** | 0.154* |
| Coachability | -0.219*** | 0.238*** |

* $p<0.05$; ** $p<0.01$; *** $p<0.001$.

A multiple linear regression model (Table 3 and Table 4) identified perceived stress and two subscales of coping skills (goal setting/mental preparation and

freedom from worry) as significant and therefore contributes significantly to the model. For instance, the B value for perceived stress is -0.403, which indicates that there is a negative moderate significant relationship between perceived stress and life satisfaction (Table 3). The $R^2=0.220$ for the full model indicates that 22% of the variation in life satisfaction can be explained by perceived stress and these two coping skills subscales. According to the ANOVA, the variation that is explained by the model is not due to change (F=9.606, p<0.001).

For the stepwise model (Table 4), $R^2=0.134$ for the first model implied that perceived stress accounted for 13.4% of the variation in life satisfaction.

**Table 3:** Multiple linear regression (full model) to examine the relationship between life satisfaction versus coping skills subscales and perceived stress

|  | Unstandardised Coefficients | | Standardised Coefficients | T | Sig. |
|---|---|---|---|---|---|
|  | B | Std. Error | Beta | | |
| Constant | 24.138 | 3.158 | | 7.643 | 0.000 |
| Perceived stress | -0.403 | 0.098 | -0.244 | -4.103 | 0.000*** |
| Coping with adversity | 0.527 | 0.827 | 0.046 | 0.637 | 0.525 |
| Peaking under pressure | 0.360 | 0.676 | 0.034 | 0.533 | 0.595 |
| Goal setting / mental preparation | 2.016 | 0.709 | 0.194 | 2.841 | 0.005** |
| Concentration | -1.013 | 0.849 | -0.079 | -1.194 | 0.234 |
| Freedom from worry | 2.161 | 0.630 | 0.210 | 3.429 | 0.001** |
| Confidence and achievement motivation | -0.564 | 0.960 | -0.042 | -0.588 | 0.557 |
| Coachability | 0.790 | 0.646 | 0.074 | 1.222 | 0.223 |

* p<0.05; ** p<0.01; *** p<0.001; Dependent variable: Life satisfaction Full model: $R^2 = 0.220$

However, for the final model, this value increased to 21.0% implying that freedom from worry (4.2%) and goal setting/mental preparation (3.4%) accounted for an extra 7.6% of the variation in life satisfaction.

**Table 4:** Multiple linear regression (stepwise model) to examine the relationship between life satisfaction versus coping skills subscales and perceived stress

|  | Unstandardised Coefficients | | Standardised Coefficients | T | Sig. |
|---|---|---|---|---|---|
|  | B | Std. Error | Beta | | |
| **Model 1** | | | | | |
| Constant | 35.047 | 1.783 | | 19.658 | 0.000 |
| Perceived stress | -0.604 | 0.092 | -0.366 | -6.561 | 0.000*** |
| **Model 2** | | | | | |
| Constant | 29.712 | 2.246 | | 13.228 | 0.000 |
| Perceived stress | -0.447 | 0.096 | -0.289 | -4.968 | 0.000*** |
| Freedom from worry | 2.254 | 0.599 | 0.219 | 3.763 | 0.000*** |
| **Model 3** | | | | | |
| Constant | 24.504 | 2.669 | | 9.180 | 0.000 |
| Perceived stress | -0.422 | 0.095 | -0.256 | -4.422 | 0.000*** |
| Freedom from worry | 2.397 | 0.589 | 0.233 | 4.069 | 0.000*** |
| Goal setting / mental preparation | 1.942 | 0.562 | 0.187 | 3.456 | 0.001** |

* p<0.05; ** p<0.01; *** p<0.001; Dependent variable: Life satisfaction Stepwise model: $R^2 = 0.134$ for Step 1, $\Delta R^2 = 0.042$ for Step 2 and $\Delta R^2 = 0.034$ for Step 3.

According to the ANOVA, the variation that is explained by the stepwise model is not due to change (Model 1: F=43.045, p<0.001; Model 2: F=29.617, p<0.001; Model 3: F=24.504, p<0.001).

**Discussion**

Student-athletes often need to cope with adversity, goal setting/mental preparation, freedom from worry, confidence and achievement motivation, and coachability. The current study found that as student-athletes learn to cope with these problems and stressful situations, their perceived stress levels decreases leading to an increase in satisfaction with life.

The student-athletes in this study were moderately satisfied with their life, although they perceived their stress levels slightly higher than average. This could perhaps be attributed to the additional stress that these students encounter in their attempt to balance their study responsibilities and sport responsibilities. This finding corroborates those of Stilger et al. (2001) who also found that academic concerns were a major source of stress to student-athlete and that their many responsibilities make their lifestyle uniquely demanding. Steadman (2011) also argued that student-athletes experienced a substantial amount of stress as a result of trying to balance the demands of higher education with other competing aspects of their lives at university. Furthermore, their dual roles as both student and athlete also contribute to higher stress levels (Meichi & LiKang n.d.). In contrast, however, Kamusoko and Pemberton (2011) found that student-athletes' persistence intentions were overwhelmingly positive regarding academic priorities, degree completion, and alignment between what they expected in terms of their student-athlete experience and what they were receiving.

Perceived stress levels, freedom from worry and goal setting/mental preparation contributed significantly to life satisfaction of student-athletes, with the perceived stress level of students-athletes having the strongest relationship toward life satisfaction. Student-athletes' stress levels were relatively high, indicating that due to their high stress level their satisfaction with life decreased. This finding is supported by Elasky (2006) who also found a significant relationship between life satisfaction and stress and posited that "as the number of stressful events increases, life satisfaction decreases, suggesting that student-athletes who endure multiple stressful events may be at risk for decreased life satisfaction". In a comparative study between American and Turkish university students, Matheny, Curlette, Aysan, Herrington, Gfroerer, Thompson and Hamarat (2002) found that perception of stress directly influences life satisfaction and found that perceived stress had greater power in explaining life satisfaction for Turkish males than American males.

The second strongest relationship to satisfaction with life was freedom from worry, where student-athletes indicated that they were sometimes concerned about their performance. This implies that the less student-athlete worry about their performances, the more their satisfaction with life increases. Smith and Christensen (1995) posited that freedom from worry is indicative of an individual not exerting pressure on oneself by worrying about performing poorly or making mistakes and not worrying about what others think of their performance. James and Collins (1997), however, argued that not performing to the required standard was a general source of stress. This may imply that poor performance may lead to more worrying situations for student-athletes thus contributing to lower levels of life satisfaction.

The third contributor to satisfaction with life was goal setting/mental preparation. The student-athletes knew mostly which specific goals to achieve and they planned to reach those goals which improve the student-athletes satisfaction with life. Meichi and LiKang (n.d.) reported that the relationship between coach and athlete contributed to the life satisfaction of athletes. In their view student-athletes worked closely with their coaches to improve performance and when they were criticised or neglected by their coaches or had poor communication with them, they found it stressful. This implies that if coaches expect their athletes to experience reduced stress levels and greater life satisfaction they need to be cautious how they treat their athletes.

*Limitations of the study*

The data collection procedure relied on respondents' introspection and self-analysis. This may be subject to bias and/or subjectivity. It is therefore unknown to what extent each of the responses represented actual feelings and behaviours of student-athletes. Another limitation could be attributed to the fact that the data collection took place at the events at which the student- athletes were present. The results of the events in which they participated could possibly have influenced their responses

**Conclusion**

Student-athletes well-being and success depends on how well they cope with various life stressors that is associated with their roles and responsibilities. While most of the student-athletes in this study were moderately satisfied with their lives, there exist the potential for them to strive for and improve their life satisfaction through applying various coping skills to reduce their stress levels that were slightly higher than average for this study.

This study found that student-athletes' perceived stress levels and two coping skills (freedom from worry and goal setting/mental preparation) were important

to student-athletes and contributed significantly to their life satisfaction. Therefore, student athletes are encouraged to monitor their stress levels and apply appropriate coping skills to reduce their stress levels so that their satisfaction with life increases.

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