An Investigation of a Model of Personal-Situational Factors, Stress and Burnout in Track and Field Coaches

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Abstract
Involvement in sports is an experience that often leads to adaptive (e.g. enjoyment) or maladaptive (e.g. burnout) feelings. Burnout is a popular syndrome recognized in sport settings since mid 80’s and it can be proved a highly dangerous state for many professionals. Research has shown evidence that sport burnout recognizes a variety of symptoms similar to the general burnout concept, like, exhaustion, change of moods, lack of interest and more. The purpose of this study was to examine a conceptual model of personal/situational variables, perceived stress and burnout in Greek track and field coaches in order to propose their relationship. 164 track and field male coaches responded to the following questionnaires: Maslach Burnout Inventory, Perceived Stress Scale, Sport Competition Anxiety Test, Coaching Issues Survey, Social Support Questionnaire, Cognitive Hardiness Scale, Leader Behavior Description Questionnaire. The results showed that the conceptual model of the independent variables “hardiness”, “competitive trait anxiety”, and “satisfaction”, moderate variable “stress perception” and dependent variables, the three dimensions of burnout supported its basic construct and function, in this specific group of coaches (p<0.05). The results suggested that the variables of this model can predict the burnout syndrome.

Key words: burnout, track and field coaches, competitive trait anxiety.

Introduction
Negative feelings, especially stress, which coaches experience within the training environment, are caused by a variety of situations such as the pressure to win, the fans, the club administration, the parents of the athletes, colleagues, the media, injuries and traveling (Caccese & Mayerberg, 1984; Hunt, 1984; Young, 1992). When the coach faces a stress situation and his mental resources are in relative balance with the causing situations, then the stress consequences are limited (Cherniss, 1980). In contrast, coaches’ prolonged exposure in perceptual stress situations, in parallel with their continuous but unsuccessful attempt to face or reduce them, leads directly to burnout. The results of the burnout feelings are coaches’ reduced performance and finally their resignation from the profession (Farber, 1983; Smith, 1986). Conclusively, exhaustion causes psychological and emotional withdrawal from a pleasant activity, as a reaction to extensive and prolonged stress or as a result of work dissatisfaction, which both increase with time (Smith, 1986).

H.J. Freudenberger (1974) first studied the burnout concept for the description of the physical and behavioural exhaustion symptoms in professionals employed in mental health services and generally in fields that entail close relationships or contacts between service providers and recipients (Freudenberger, 1974; Maslach & Jackson, 1981a,b; Pines & Maslach, 1978; Schwab & Iwanicki, 1981).

Studies confirm that the burnout syndrome is increasingly rising in recent years, resulting in a plethora of research by psychologists, sport psychologists and sociologists, who have identified the syndrome’s significant influence on individuals, and consequently on private companies, public organizations, sports, the economy, manufacturing and so forth.

Burnout has been studied as a three-dimensional syndrome and each dimension represents different types of symptoms (Maslach, 1981a,b). Based on this approach burnout is defined as «a syndrome of emotional exhaustion, depersonalization and reduced of personal accomplishment which affects individuals with careers» (Maslach & Jackson, 1986b, pp. 1). The first dimension of emotional exhaustion contains feelings of physical and mental fatigue, as well as loss of energy and disposition. The second dimension with regard to depersonalization is described as removal and estrangement of the worker from his recipients/clients/athletes and as the establishment of impersonal, aggressive and cynical relations with them. The third dimension concern reduced of personal accomplishment and refers to the negative feelings of the individual who cannot perform
satisfactorily at work.

The establishment of a theoretical model concerning the burnout syndrome was considered appropriate as well as a prerequisite for further development in the athletic environment and training process. Initially, the majority of the researches studying coaches’ burnout behavior have focused on the examination of the variations in burnout levels, which were based on the selected demographic characteristics, such as gender, age, coaching experience, marital status, winning percentage etc. (Caccese & Mayeberg, 1984; Karabatsos, Georgiadis, & Karteroliotis, 2007; Kosa, 1990; Quigley, Slack & Smith, 1987).

Smith (1986) established a theoretical model based on (a) the fact that burnout syndrome is a reaction to prolonged stress (Cherniss, 1980), (b) the extensive study of empirical data regarding the causes and the consequences of the syndrome in the social service professionals (Freudenberger, 1974, 1975; Maslach & Jackson, 1981a,b) and (c) the social exchange model of Thibaut & Kelley (1959). Smith’s model provides a useful framework to distinguish between burnout and other factors, which are the causes for resignation from sports. Examined in this model (widely known as “cognitive-affective model of stress and burnout”) is the relationship between stress and burnout, where individual motives and personality differences affect parallel relations, including mutual interactions between environmental, cognitive, psychological and behavioral factors. The specific model became the theoretical base for extensive research of the burnout syndrome within the athletic environment (Smith, 1986).

Based on Smith’s model many researchers have examined the factors that reinforce the expansion of the burnout syndrome in coaches of individual sports but mostly in team sports coaches (Kelley, 1994; Kelley & Gill, 1993; Martin, Kelley, & Dias, 1999). Specifically, Kelley (1994) examined a stress and burnout model in collegiate baseball and softball coaches. This model was based on the following hypotheses: (a) the personal/situational factors of coaching issues, social support, hardiness, gender and winning percentage which can predict the coaches’ stress levels and (b) subsequently the stress perception is a clear predictor of burnout. The results confirmed both of these hypotheses.

In response to previous investigations, Kelley and her colleagues (1999) examined and established an expanded model of personal/environmental factors, stress perception and burnout in male and female tennis coaches. The researchers defined as independent variables “hardiness”, “coaching issues”, “coaching level”, “gender”, “competitive trait anxiety” and “leadership style” (democratic-autocratic). The “stress perception” defined as mediate variable, and depended variables were the three dimensions of burnout. This model also investigated the direct influence of independent variables (personal/environmental factors) to the burnout dimensions. The results of this research confirmed the basic structure and function of the model. All of the personal/environmental factors, with the exception of the democratic leadership style and coaching level, predicted the stress perception, as well as the three dimensions of the burnout syndrome (Kelley et al., 1999).

Another related study (Hendrix, Acevedo & Hebert 2000) investigated a model where independent variables were social support, hardiness and coaching/athletic issues, the mediate variable of stress perception and the dependent variables of the three burnout dimensions. The results revealed a casual relationship between independent, mediate and dependent variables of the model.

All the previous investigated models confirmed Smith’s (1986) theoretical cognitive-emotional model of stress and burnout in the athletic environment.

The present study examines a theoretical model of personal/environmental factors, stress and burnout, in order to explore the factors that can predict the occurrence of the syndrome in coaches of individual sports, such as track and field.

The model’s set independent variables were hardiness, competitive trait anxiety, coaching issues, leadership style and social support, mediate variable of the perception of stress and dependent variables of the three dimensions which compose the burnout syndrome. Examined, were the direct prediction of the independent variables to the three dimensions of burnout as well as the indirect prediction through stress perception (Figure 1).

Methods

Participants

One hundred and sixty four (164) male track and field coaches, from all over Greece voluntarily participated in the present study, following approval from the Department’s Ethics Comity. All of them were working in official athletic clubs and their athletes participated to the national championships of all categories. One hundred thirteen of them (113) held winning percentage 68.9% and they had contract with the Federation. The rest fifty one (51) held winning percentage 31.1% and they had different working relation with the clubs. The coaches’ age ranged from 24 to 68 years (M=40.9, SD=8.2), fifty nine of them (36.0%) were working for more than sixteen years, forty eight of them (29.3%) 11 to 15 years, thirty two of them (19.5%) 6 to 10 years and twenty five of them (15.2%) 1 to 5 years.

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Instruments

For the purposes of the study applied the following instruments:

(a) Maslach Burnout Inventory (Maslach & Jackson, 1986): it was used to evaluate the coaches’ burnout levels, within the coaching environment. Specifically, were evaluated the three burnout subscales which compose the syndrome: emotional exhaustion, depersonalization and reduced personal accomplishment. This specific questionnaire has been tested in Greek population, and its psychometric properties have been well documented (Apostolidis, 2000; Karabatsos et al., 2007). For the present sample, internal consistency coefficient Cronbach $\alpha$ for the instrument observed .73 for emotional exhaustion, .71 for depersonalization, and .78 for personal accomplishment.

(b) Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983): the instrument evaluates the intensity rather than frequency of stress perception because it refers in relatively resent (last month) stressful situations. The scale has been applied in Greek population from Apostolidis (2000) in his doctoral dissertation. The reliability of the scale in the present study was $\alpha$=.67.

(c) Sport Competition Anxiety Test (Martens, 1977): the instrument evaluates the individual’s competition anxiety predisposition. The instrument has been adopted for the Greek population from Zervas and Kakkos (1990) and referred adequate internal consistency ($\alpha$=.87).

(d) Coaching Issues Survey (Kelley & Gill, 1993): it records the stress which reveals caused of various situations within the coaching environment. In the present study was applied the Greek edition of the index, as it was adopted for the Greek population from Apostolidis (2000). The internal consistency of the instrument referred at $\alpha$=.90.

(e) Social Support Questionnaire (Sarason, Levine, Basham, & Sarason, 1983): is a two factor instrument providing information about close available persons supplying support (up to nine persons e.g., mother, friend, colleague, supervisor), and the satisfaction from the overall available support (Apostolidis, 2000). The internal consistency’s index Cronbach $\alpha$ referred .88 for the support and .87 for the satisfaction.

(f) Cognitive Hardiness Scale (Nowack, 1990): the instrument evaluates the particular “attitude” and “believes” of a person for the life. It also evaluates the three dimensions (commitment, control and challenge) which compose hardiness. However, the specific instrument applied as single factorial, evaluating hardiness as an overall concept. The psychometric properties of the instrument in Greek language have been tested from Karabatsos (2004). Validity and reliability have been well documented. Internal consistency’s index Cronbach $\alpha$ for the present study referred .74 for the scale.

(g) Leader Behavior Description Questionnaire (Stogdill & Coons, 1957): the instrument refers in two factors of the coaches’ leadership style, which are the democratic and the autocratic style. Internal consistency’s index Cronbach $\alpha$ referred .75 for the democratic and .77 for the autocratic leadership style.

Procedure

To the coaches who participated in the present study supplied a file containing: (a) an acknowledgment letter explaining the purpose and the significance of the investigation, (b) a battery of the surveys to be completed, (c) a personal data form and (d) an empty reply file. Researchers conducted with the coaches one day before the beginning and during the national championship games. The complement of the surveys and the collection of the files have done before the end of the games. In case that a coach had not the time to complete the battery of the surveys, he could post them using the reply stamped preaddressed file, which was already given. The deadline for the files’ return was set up to ten days after the receipt day.

Statistical analysis

The statistical analysis of the data has been processed through models’ equations (SEM) and path analysis, using the program Amos 4.0 (Arbuckle & Wothke, 1999). For the evaluation of the proposed model fit, have been tested the following indices of fit and plausibility: (a) the $\chi^2$ index, (b) the $\chi^2$/df ratio with degrees of freedom ($df$) ($\chi^2$/df ratio), (c) the Goodness of Fit Index (GFI), (d) the Comparative Fit Index (CFI), (e) the Incremental Fit Index (IFI) and (f) the Root Mean Square Error of Approximation (RMSEA) (Baldwin, 1989; Jöreskog, 1993).

The $\chi^2$ (chi square) is an absolute fit index, which values however are affected of the sample size. There for the $\chi^2$/df ratio with degrees of freedom of the model has been used as more reliable index and values <3, support the good fit of the examined model (Jöreskog, 1993).

The Goodness of Fit Index (GFI), Comparative Fit Index (CFI) and Incremental Fit Index (IFI), have been formulated so as the evaluation width to be range from 0 (zero fit), to 1.00 (absolute fit), whereas values over .900 (cur-off criterion) reveal that the investigated model is acceptable. Finally, according to Hu and Bentler (1999), the criterion of a model’s fit regarding the RMSEA index is up to .080 values.
Results

It was ascertain from the data analysis that the theoretical model with indirect paths of personal/environmental factors to the perception of stress and the direct paths of these factors to burnout was not confirmed. The index of $\chi^2$ (180.30) $df$ (37) ($\chi^2/df$ ratio=4.87, $p<.001$), as well as the indices GFI=.83, CFI=.74, IFI=.60 and RMSEA=.15 which have been applied to evaluate the model’s basic structure and function, were not acceptable (Baldwin, 1989; Jöreskog, 1993).

Based on the results of the initial model, researchers investigated a new elaborated one, which had as independent variables “hardiness”, “competitive trait anxiety” and “satisfaction from support”, mediate variable the “perception of stress” and dependent variables the three dimensions of burnout (Figure 2). In this model, all of the indices which evaluate its basic structure and function: $\chi^2=15.77$, $df=8$, ($\chi^2/df$ ratio=1.97, $p<.05$), GFI=.97, CFI=.96, IFI=.96 and RMSEA=.077, reasoned absolutely satisfactory (Jöreskog, 1993). Table 1 presents the indices’ values of both models and the acceptable values.

The investigation of the path analysis of the model, revealed the following values of the paths between the variables: (a) value of the path of stress perception to burnout .36, (b) values of the paths of hardiness to perception of stress and to burnout .37 and .20 respectively, (c) value of the path of competitive trait anxiety to perception of stress .38, (d) value of the paths of satisfaction from support to burnout .18 and to perception of stress -.06. Also, regarding to the factorial loadings of the three burnout dimensions, it was found .65 for the emotional exhaustion, .70 for depersonalization and .55 for personal accomplishment (Figure 2).

Figure 1. The theoretical model of direct and indirect paths (dashed lines) of the personal/environmental factors, stress and burnout in track and field coaches.

Note: EE= Emotional Exhaustion, DE= Depersonalization, PA= Personal Accomplishment.
Table 1. Cumulative results of the fit indices of the set models.

<table>
<thead>
<tr>
<th>Indices</th>
<th>$\chi^2$/df ratio</th>
<th>$p$</th>
<th>GFI</th>
<th>CFI</th>
<th>IFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial model</td>
<td>180.30/37=4.87</td>
<td>0.001</td>
<td>.830</td>
<td>.740</td>
<td>.600</td>
<td>1.50</td>
</tr>
<tr>
<td>Final model</td>
<td>15.77/8=1.97</td>
<td>0.05</td>
<td>.970</td>
<td>.960</td>
<td>.960</td>
<td>.077</td>
</tr>
</tbody>
</table>

Discussion

This study investigated a burnout model of track and field coaches, as well as the casual relationship of specific personal/environmental factors with stress perception and burnout. This investigation has been applied in a representative sample of track and field coaches, whereas the relationship between coach and athlete is particular. The main purpose of the study was to identify some of the factors which can predict or mediate the burnout occurrence.

This study based on Smith’s (1986) cognitive/affective model of stress and burnout, which offered a theoretical base contributing to the development and examination of similar models. Also, it was taken under consideration, the examination of similar models, which from time to time have been explored by researchers (Kelley & Gill, 1994; Kelley et al., 1999; Hendrix et al., 2000) and they confirmed Smith’s (1986) theoretical model.
The initial model did not present good fit to the data of the track and field coaches. The indices of fit and plausibility for the model considered not acceptable, with base the effective values (Jöreskog, 1993). So, a new model set under investigation, in which retained the independent variables of hardiness, competitive anxiety stress and satisfaction from support. The reason that the independent variables of coaching issues, leadership behaviour and social support (first factor) did not function, may be cause: (a) regarding coaching issues to the fact that the instrument examined issues relevant on team sports environment and especially basketball (Apostolidis, 2000), (b) regarding leadership behaviour (democratic/autocratic), a previous study with track and field coaches, did not reveal significant differences on burnout (Karabatsos, 2006). Therefore, the burnout levels of track and field coaches are not affected from their leadership style and this fact may be cause to the particular relationship that develops between coach and athlete.

The goodness of fit and plausibility of the new model, were completely supported from the results. According to the path values of the new model, revealed between its variables the following casual relations: (a) the most important predictor of burnout appears to be “perception of stress”, which explains that the most acute stress problems of the coaches, lead to burnout, (b) the personal factor of hardiness predicted the perception of stress, as well as the burnout levels. The negative value of the path is substantial, showing “hardiness” as an important factor which contributes to the prevention of the syndrome appearance, (c) competitive trait anxiety has a positive casual relationship with stress perception. This fact reinforces the general perception of the track and field coaches about stress, (d) the variable of “satisfaction from support” revealed negative casual relationship with burnout, but not with the perception of stress. A possible explanation for this finding is that the track and field coaches do not seek social support in impermanent stress situations, but they feel satisfied from the support provided when they face stressful situations which they cannot control, exceed their own capabilities and lead to burnout.

Regarding the interpretation of the loadings of the burnout dimensions, is confirmed that all of the three of them, indeed composing the syndrome. The most important dimension is depersonalization, second the emotional exhaustion and third the reduced of personal accomplishment. The negative loading of the personal accomplishment variable is reasonable, because the evaluation of the specific variable, with base the established values and norms is by reverse measurement, which means that high values explain low levels of accomplishment and reversely low values explain high levels of accomplishment (Maslach & Jackson, 1986).

Conclusively, the results of the study supported the basic structure and function of the model, meaning that possibly exist a casual relationship between its variables. The “competitive trait anxiety” enforces the perception of the coaches about stress, which in turn seems to effect positively to the burnout occurrence. Reversely, the “hardiness” of the temperament which defines the coaches’ personality and the “satisfaction from support”, reveal as important factors affecting negatively the burnout occurrence.

References


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