Psychological Resilience Moderates the Relationship between Organizational Stressor Frequency and Burnout in Athletes and Coaches

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This version of the manuscript was submitted to The Sport Psychologist on 2 November 2017

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Abstract

We present two studies examining the extent to which the frequency of organizational stressors encountered relate to burnout and whether psychological resilience qualities moderate any such relationship. The studies were conducted with independent samples of athletes and coaches using a questionnaire design. In study one, 372 athletes completed measures of organizational stressors (OSI-SP), resilience (CD-RISC-10), and burnout (Athlete Burnout Questionnaire). In study two, 91 coaches completed measures of organizational stressors (OSI-SP), resilience (CD-RISC-10), and burnout (Coach Burnout Questionnaire). Data were analyzed in a moderated regression model using Hayes’ PROCESS macro for SPSS and supported the hypotheses that organizational stressor frequency was directly related to burnout in both athletes and coaches and that psychological resilience moderated this relationship. These results highlight the influential role of organizational dynamics for athlete and coach well-being and indicate that psychological resilience is a salient individual difference variable that buffers against potential negative outcomes.

Keywords: coaching, PROCESS, resilient, sport, stress, well-being
Psychological Resilience Moderates the Relationship between the Frequency of Organizational Stressors and Burnout in Athletes and Coaches

Participation in competitive sport is typically characterized by a wide range of demands that could lead to a disruption in performance and impaired health and well-being (Fletcher & Arnold, 2017). One category of demands that are particularly prevalent and problematic for athletes are those associated with the organization within which they operate (see Arnold & Fletcher, 2012; Fletcher, Hanton, & Mellalieu, 2006). With regards to the prevalence of these demands, sport performers have been found to experience and recall more organizational stressors than those associated with competitive performances (Hanton, Fletcher & Coughlin, 2005). In terms of their problematic nature, scholars have argued that the presence of organizational stressors in sport might be inevitable (e.g., Fletcher et al., 2006), largely uncontrollable (Hanton, Wagstaff & Fletcher, 2012), and give rise to a variety of emotional, behavioral, and attitudinal responses (Fletcher, Wagstaff, & Hanton, 2012). Such responses may have diverse consequences for burnout (Tabei, Fletcher & Goodger, 2012), dissatisfaction (Noblet, Rodwell & McWilliams, 2003), negative emotions (Fletcher et al., 2012), and impaired preparation for and performance in major competitions (Gould, Guinan, Greenleaf, Mudberry & Peterson, 1999). To this end, we report the findings from two studies. The first aim of these studies was to ascertain whether the frequency of organizational stressors encountered by athletes and coaches was related to burnout dimensions. The second aim was of this research was to establish whether psychological resilience qualities moderated the relationship between the frequency of organizational stressors and burnout.

Much of the extant research on organizational stress in sport has been conceptually aligned with transactional theory (see Lazarus, 1999), of which the main tenet is that stress resides neither in the person or their environment, but transaction between the two. In line with this theoretical foundation, Fletcher et al. (2006) defined organizational stress in sport 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; adapted from Woodman & Hardy,
In keeping with Fletcher et al.’s (2006) definition of organizational stress, researchers have sought to identify and examine the types of organizational stressors encountered by individuals in sport (e.g., Arnold, Fletcher, & Daniels, 2016, 2017; Fletcher, Hanton, Mellalieu, & Neil, 2012; Kristiansen, Murphy & Roberts, 2012; Woodman & Hardy, 2001). Arnold and Fletcher (2012) conducted a research synthesis and developed a taxonomy of organizational stressors in sport comprising four categories. To elaborate, leadership and personnel issues (e.g., coach’s personality and external expectations), cultural and team issues (e.g., communication and goal setting), logistical and environmental issues (e.g., travel and accommodation), and performance and personal issues (e.g., injury and finances) were identified as organizational stressors. This classification provided the conceptual foundation for the development and validation of the Organizational Stressor Indicator for Sport Performers (OSI-SP; Arnold et al., 2013).

Although research investigating organizational stress in competitive sport has advanced considerably over the past decade, much work remains to be done. For instance, most of the studies to date have focused on one component (e.g., stressors, appraisal, responses, coping, outcomes) of the organizational stress process in sport performers. Hence, it is important that researchers progress beyond investigating discrete aspects of the organizational stress process (e.g., stressors, appraisals, responses, coping) in performers alone, and explore links between components of the process (e.g., factors relevant to the stress-burnout relationship) across a more diverse range of stakeholders within organizational spheres (Fletcher & Arnold, 2017).

**Burnout in Competitive Sport**

The importance of investigating burnout within sport organizations stems from the detrimental impact it can have on health, well-being, and performance. Indeed, burnout has been associated with negative affective, cognitive, motivational, and behavioural consequences such as decreased performance, overtraining, reduced sense of accomplishment, depressed mood, feelings of helplessness, diminished motivation and eventual withdrawal from sport (Cresswell & Eklund, 2006b; Goodger, Gorely, Lavallee & Harwood, 2007; Gustafsson Hassmén, Kenttä & Johansson, 2008; Gustafsson, Kenttä & Hassmén, 2011). Extant research has generally supported a link
between stressors and burnout (for reviews see e.g., Cresswell & Eklund, 2006b; Gustafsson et al., 2011). Nevertheless, while we agree that stress is an important component of the burnout process, not everyone who experiences stress burns out (Raedeke, 1997). Further, we concur with Coakley (1992) among others (e.g., Cresswell & Eklund, 2006b, Goodger, Wolfenden & Lavallee, 2007; Gould et al., 1996) that the organization of sport can create climates associated with higher incidences of burnout.

Athlete burnout. While there has been some conceptual debate among scholars (cf. Cresswell & Eklund, 2006a; Goodger, Gorely, Lavallee & Harwood, 2007), it is generally accepted that athlete burnout is an experiential condition characterized by symptoms of physical and emotional exhaustion, reduced sense of accomplishment, and devaluation of the sporting context (Raedeke, 1997; Raedeke & Smith, 2009). According to Raedeke and colleagues (Raedeke, 1997; Raedeke, Lunney & Venables, 2002), physical and emotional exhaustion (PEE) emanates from the psychosocial and physical demands associated with intense training and competition. Reduced sense of accomplishment (RA) refers to feelings of inefficacy and the tendency to evaluate oneself negatively in terms of performance and ability. Sport devaluation (DV) is a negative, detached attitude toward sport reflected in part by a lack of concern for performance quality. Research has examined the stressor-burnout relationship in athletes. For example, Gould, Udry, Tuffey and Loehr (1997) reported factors such as increased pressure from others and the need for a social life as contributing to athlete burnout. Further qualitative research by Gustafsson et al. (2008) found situational and organizational factors (e.g., work/school demands, logistical concerns, a lack of social support) to be associated with burnout in elite athletes. Such findings imply the numerous environmental demands that athletes face might lead to debilitating personal and professional effects.

Coach burnout. Conceptualizations of coach burnout have similarity with athlete burnout but with researchers devoting greater attention to the coaching context (Kelley, 1994). Consequently, much of the extant coach burnout literature has investigated the relationship between personal (e.g., gender, age) and situational (e.g., work overload, social support) factors
with the three general burnout dimensions allied with athlete burnout (viz. PEE, RA, and DV; Georgios & Nikolaos, 2012; Kelley, Eklund & Ritter-Taylor, 1999). To elaborate, a lack of perceived autonomy and control (Vealey, Udry, Zimmerman & Soliday, 1992), and role ambiguity and role conflicts (Capel, Sisley & Desertrain, 1987), have been linked to coach burnout. Recently, Lundkvist, Gustafsson, Hjalm and Hassmén (2012) provided a qualitative perspective of burnout in elite soccer coaches. Lundkvist et al.’s findings illustrate coach burnout as stemming from a combination of issues relating to the performance environment profile (e.g., outside pressure to perform, problems handling the performance environment), and the life situation profile (e.g., workload, family, health issues), many of which have relation to organizational stressors.

H1. The frequency with which organizational stressors are encountered is positively related to burnout in a) athletes and b) coaches.

Psychological Resilience in Competitive Sport

As alluded to above, while it would appear that stressors are an important component of the burnout process, not all individuals who experience stress will burnout or withdraw from sport (Raedeke, 1997). Therefore, to better understand why individuals report different outcomes to similar organizational stressors, research might examine the role of potential moderating and mediating variables, including various cognitive, emotional, and attitudinal, and individual differences phenomena. Psychological resilience is one important individual difference in sport organizations as those operating within them must use a variety of protective factors to withstand stressors (Fletcher & Sarkar, 2012). Early resilience research in competitive sport focused on athletes’ responses to adversity (Galli & Vealey, 2008; Martin-Kruum, Sarrazin, Peterson & Famose, 2003; Mummery, Schofield, & Perry, 2004) and the delivery of training programs to develop resilience (Schinke & Jerome, 2002; Schinke, Peterson, & Couture, 2004). In a more recent and systematic program of research, Fletcher and Sarkar defined psychological resilience as, “the role of mental processes and behavior in promoting personal assets and protecting an individual from the potential negative effect of stressors” (2012, p. 675; 2013, p. 16). This
definition emphasizes the potentially negative effects of stressors and the need to maintain mental
and behavioral functioning in the face of adversity (Sarkar & Fletcher, 2014). In an interview study with 12 Olympic champions, Fletcher and Sarkar (2012) found that participants encountered a wide variety of stressors and possessed five main psychological protective factors (relating to a positive personality, motivation, confidence, focus, and perceived social support) that underpin the resilience-stress-performance relationship. Further to this, Sarkar and Fletcher (2014) reviewed the different types of stressors (viz. competitive, organizational and personal) encountered by sport performers and found the aforementioned psychological protective factors appear to protect athletes from the potentially negative effect of these stressors. Such findings suggest psychological resilience buffers against potentially negative responses to organizational stressors in athletes.

H2. The frequency with which the organizational stressors encountered by a) athletes and b) coaches interacts with psychological resilience to predict burnout, whereby, as psychological resilience qualities increase, there would be a significantly weaker relationship between the frequency of organizational stressors and burnout.

Purpose of the Studies

From the preceding review, it would appear that psychological resilience is a potentially salient asset for those who operate in demanding sport environments (i.e., athletes and coaches). Hence, it seems pertinent to examine resilience in the organizational stressor-burnout relationship given the recent calls for researchers to examine the role of potential moderating and mediating variables in the organizational stress process in sport (cf. Fletcher & Arnold, 2017). In light of these observations, the aim of this research was to ascertain whether organizational stressor frequency was related to burnout and whether psychological resilience qualities moderated any such relationship in athletes and coaches.

Study 1

Method

Participants
For the purpose of this study, 372 athletes were recruited from a large range of sports \((n = 43)\). Participants from individual (e.g., golf, archery and equestrian), team (e.g., basketball, football, rugby) and combined individual and team (e.g., cycling, tennis and rowing) sports were recruited. Males comprised the majority of the sample (57.8%) and the participants ranged in age from 17 to 42 years \((M = 21, SD = 5.91)\). On average, athletes had 8.77 hours per week \((SD = 5.70)\) of active involvement in training and competition and had competed for their current organization for 5.1 years \((SD = 4.43)\). At the time of the study, participants performed at club \((n = 138)\), county \((n = 103)\), regional \((n = 49)\), national \((n = 52)\) and international \((n = 30)\) level.

Following institutional ethical approval, participants were recruited via opportunity sampling and online distribution using web-based Typeform software. The sampling criteria specified that participants had to be aged over 16 years and be current athletes in a sport organization.

**Procedure**

The data collection process involved distribution of a questionnaire pack that included the Organizational Stressor Indicator for Sports Performers (OSI-SP; Arnold, Fletcher & Daniels, 2013), Connor-Davidson Resilience Scale-10 (CD-RISC-10; Campbell-Sills & Stein, 2007), and Athlete Burnout Questionnaire (ABQ; Raedeke & Smith, 2001). These questionnaires were selected due to their sound psychometric properties, accessibility and conceptual relevance to the variables under investigation. Participants were offered either a hard copy \((n = 342)\) or online \((n = 30)\) version of the questionnaire pack, which they selected according to preference. Online questionnaires were completed using the Typeform web interface.

**Measures**

**Organizational Stressor Indicator for Sports Performers (OSI-SP).** The OSI-SP (Arnold et al., 2013) is a 23-item measure comprising 5 subscales, goals and development, logistics and operations, team and culture, coaching, and selection. The 5-factor structure was supported by confirmatory factor analysis (Arnold et al., 2013). Although Arnold et al. (2013) suggested using all three rating scales (i.e., frequency, intensity, and duration) for a comprehensive picture of performer-organization transactions, they argued that the frequency
scale alone would be adequate for researchers requiring a shorter version of the indicator. Hence, in order to limit the number of items in the questionnaire pack, and in line with the view that burnout is linked to chronic exposure to stressors (e.g., Dale & Weinberg, 1990), the frequency scale alone was employed here. The OSI-SP items were scored on a Likert rating scale in relation to the frequency of each organizational stressor, with options ranging from 0 to 5 for each stem. For each item, the frequency (e.g., “how often did this pressure place demand on you?”, 0 = never, 5 = always), of organizational stressors encountered were measured. Acceptable omega coefficients for each OSI-SP subscale were observed for the present sample: goals and development (Ω = .75), logistics and operations (Ω = .83), team and culture (Ω = .62), coaching (Ω = .78), and selection (Ω = .82).

**Connor-Davidson Resilience Scale-10 (CD-RISC-10).** In the absence of a sports-specific measure of psychological resilience, the CD-RISC-10 (Campbell-Sills & Stein, 2007) provided a measure of resilience for the purpose of this investigation. The CD-RISC-10 is a ten-item measure (score range 0-40) that assesses personal resources or qualities deemed appropriate for positive adaptation to adversity (viz. personal competence, high standards, tenacity, trust in one’s instincts, tolerance of negative affect, strengthening effects of stress, positive acceptance of change, secure relationships, control, and spiritual influences). The questionnaire consists of ten statements related to adapting to adverse situations (e.g. “I am able to adapt when changes occur”). Each item was measured on a 5-point Likert scale ranging from 0 (not at all true) to 4 (true nearly all the time), with higher scores indicating recurrent use of each strategy. Gucciardi, Jackson, Coulter, and Mallett (2011) reported good factorial validity analyses supporting the 10-item unidimensional model compared to the original 25-item CD-RISC (Connor & Davidson, 2003), and internal reliability estimates with adult and adolescent cricketers. Satisfactory internal consistency (Ω = .85) were observed in the present study.

**Athlete Burnout Questionnaire (ABQ).** The ABQ (Raedeke & Smith, 2001) is a 15-item measure and was developed specifically to measure burnout in athletes. The ABQ comprises of
three 5-item subscales designed to assess: (a) reduced sense of accomplishment (e.g., “I am not achieving much in sport”), (b) sport devaluation (e.g., “I feel less concerned about being successful in sport than I used to”), and (c) emotional/physical exhaustion (e.g., I feel overly tired from my sport participation”). Two items are positively-framed and reverse scored. Participants were required to answer each item on a 5-point Likert Scale ranging from 1 (almost never) to 5 (almost always). Higher total scores on the ABQ indicated a greater degree of burnout.

Confirmatory factor analysis by Raedeke and Smith (2001) suggested acceptable construct validity and Cronbach’s alphas (between .85 and .91). Further, satisfactory test-retest reliability from a sample of cross-country runners was reported (between .86 and .92). In the present study, adequate omega reliability coefficients were reported for sport devaluation (Ω = .77) and emotional and physical exhaustion (Ω = .86), but the omega for reduced sense of accomplishment (Ω = .64) was slightly below the recommended threshold for adequacy.

**Data Analysis**

In order to investigate whether the effect of organizational stressors on burnout varied in magnitude and nature as a function of resilience, simple moderation analysis was utilized (Hayes, 2009). This allowed the identification of statistical interactions between the predictor (organizational stressors) and moderator (resilience) variables, and the strength and direction of their collective effect on the outcome variable (burnout) (Judd, Kenny, & McClelland, 2001).

Further, moderation encapsulates the enhancement, reduction or changing influence of the predictor as a result of the moderating variable (Fairchild & MacKinnon, 2009). In addition to the simple moderation analyses, we also conducted additional regression analyses controlling for resilience with the organizational stressor subscales in predicting burnout. Before commencing the analysis, the moderation model was checked for statistical assumptions. This included OLS regression assumptions (i.e., linear in parameters, random sample, random sample, more than 20:1 observations: ratio, no perfect collinearity, zero conditional mean, homoscedasticity; Cohen, Cohen, Aiken & West, 2003). Data were analyzed using SPSS Version 22 (IBM Corporation,
U.S.A) using Hayes’s (2013) PROCESS macro. This regression-based path analytic framework allows the configuration and estimation of interactions in moderation models. Nine participants returned incomplete questionnaires and, therefore, had their responses excluded from the data analysis.

**Results**

Descriptive statistics and correlations can be seen in Table 1. For the main study variables, there was a significant positive relationship between the frequency of organizational stressors and burnout \((r = .27, p < .01)\), providing support for Hypothesis 1a. In addition, a significant negative relationship was found between resilience and burnout \((r = -.46, p < .01)\). A significant relationship was not found between the frequency of organizational stressors and resilience.

The simple moderation results are presented in Table 2. Consistent with Hypothesis 2a, resilience moderated the relationship between organizational stressors and burnout in athletes \((F (3, 373) = 44.86, p < .001, R^2 = .29)\). For every one unit increase in resilience there was a -.22 decrease in burnout \((b = -.22, t(373) = 85.46, p < .001)\) and for every one unit increase in stressor frequency, there was a .93 increase in burnout \((b = .93, t(373) = 4.98, p < .001)\). The interaction between resilience and stressor frequency was \((b = -.05, t(373) = -2.22, p < .05)\). Interaction slopes for stressor frequency predicting burnout showed that at low levels of resilience burnout scores increased by 1.25 \((b = 1.25, t(373) = 5.04, p < .001)\) compared to athletes who reported high levels of resilience, for whom burnout scores increased by .60 \((b = .60, t(373) = 2.68, p < .001)\). The moderation effects are presented graphically in Figure 1.

We conducted further analyses to examine the contribution of each organizational stressor subscale (see Table 3). After controlling for covariance among the subscales, moderation analyses showed the team and culture, coaching, and goals and development subscales to be significant predictors of burnout, but the logistics and operations and selection subscales did not.
Discussion

This study provides a novel empirical examination of the organizational stressor-resilience-burnout relationship in a sport context. The findings indicate that the frequency of organizational stressors was positively correlated with athlete burnout. Hence, Hypothesis 1a was supported. Further, following simple moderation analysis (see Table 2), the frequency of organizational stressors experienced by athletes interacted with psychological resilience to predict burnout. That is, the results suggest the relationship between organizational stressor frequency and burnout is significantly reduced in athletes with higher levels of resilience compared to those with lower levels of resilience. Therefore, Hypothesis 2a was supported.

The data are comparable to those of Tabei et al. (2012), who reported a relationship between organizational stressors and burnout using the ABQ and follow-up interviews with soccer players. Hence, the empirical findings from the present study support and extend theoretical links between stress and burnout in athletes (cf. Gustafsson et al., 2011; Raedeke & Smith, 2004). Further, athletes in the present study with high resilience reported a lower incidence of burnout when encountering comparable frequency of organizational stressors to those with low resilience. One possible explanation for this protective effect is the elicitation of constructive challenge appraisals, whereby athletes perceive stressors as opportunities for personal and skill development. Nevertheless, it is beyond the scope of this study to ascertain whether resilience promotes facilitative athlete responses in adverse circumstances and it is for future research to examine such relationships.

In terms of the organizational stressor subscales, it is noteworthy that only three of the five OSI-SP subscales individually predicted burnout when tested with resilience as a moderator. These data highlight team and culture, coaching, and to a lesser extent, goals and development as strong predictors of burnout, when controlling for other stressors and resilience. Moreover, such findings have commonality with extant findings (see Arnold et al., 2016). Specifically, sport performers competing at national or international level encountered a significantly higher
frequency of both goals and development and logistics and operations organizational stressors than those competing at regional and university, and higher frequency of selection, goals and development, and logistics and operations organizational stressors than those competing at county and club level. The present sample was reflective of varying numbers of county (27%), regional (13%), national (14%), and international (8%) performers, and as such, the future researchers might undertake further examination of the influence of demographics on the stressor-burnout relationship.

**Study 2**

**Method**

**Participants**

For the purpose of this study, 69 male and 22 female coaches ($n = 91$) were recruited from a broad range of individual and team sports ($n = 26$), with a sizeable proportion of coaches specializing in association football (24.2%). The participants ranged in age from 21 to 60 years ($M = 31.1, SD = 12.3$). On average, the participants coached in their current sport organization for 12.31 hours per week ($SD = 12.82$) and had been in their current position for 8.65 years ($SD = 7.05$). The participants coached at club ($n = 26$), county ($n = 15$), regional ($n = 13$), national ($n = 21$) and international ($n = 16$) levels at the time of the study. After receiving ethical approval, participants were recruited via workplaces, university institutions, and sport organizations. The sampling criteria specified that participants had to be currently coaching in a sport organization.

**Procedure**

A questionnaire pack including the OSI-SP, CD-RISC-10, and the Coach Burnout Questionnaire (CBQ) was distributed to coaches in this study. These questionnaires were selected due to sound psychometric properties, accessibility and conceptual relevance to the variables studied. The data collection protocol as described in Study 1 was repeated in Study 2, using the online survey website Typeform ($n = 18$) and hard copy ($n = 73$) distribution techniques.

**Organizational Stressor Indicator for Sports Performers (OSI-SP).** See Study 1.

Acceptable omega coefficients were observed in this study for frequency of organizational
stressors in each subscale of the OSI-SP: goals and development (Ω = .77), logistics and
operations (Ω = .82), team and culture (Ω = .80), coaching (Ω = .78), selection (Ω = .87).

**Connor-Davidson Resilience Scale-10 (CD-RISC-10).** See Study 1. Acceptable omega
coefficients for the sample of coaches were observed for the present sample (Ω = .86).

**Coach Burnout Questionnaire (CBQ).** The CBQ (see Malinauskas, Malinauskiene &
Dumciene, 2010; is a 15-item measure based on the original ABQ (Raedeke & Smith, 2001),
specifically designed to assess burnout in coaches. The measure is based on the original ABQ, the
CBQ comprises of three 5-item subscales designed to assess: (a) reduced sense of
accomplishment, (b) sport devaluation, and (c) emotional/physical exhaustion, in line with the
multidimensional conceptualization of burnout (Raedeke, 1997). Of the 15 items, two are posed
positively and are reverse scored, with the remaining 13 being posed negatively. The original
ABQ question stems are altered for the CBQ to reflect coaching rather than athletic participation
in sport. For example, “I’m accomplishing many worthwhile things in [sport]” is changed to “I’m
accomplishing many worthwhile things coaching [sport].” Subjects are required to answer each
item on a 5-point Likert scale ranging from 1 (almost never) to 5 (almost always). Higher scores
on the CBQ indicate a greater degree of burnout. Based on the examination of convergent and
discriminant validity of extant coach burnout measures, Lundkvist et al. (2014) supported the use
of the CBQ because of its coverage of important aspects of coach burnout that other measures do
not cover (e.g., Maslach Burnout Inventory; Maslach & Jackson, 1981, Oldenburg Burnout
Inventory; Halbesleben & Demerouti, 2005). In an examination of fit, clarity, and the meaning of
revised items the CBQ has been found to have appropriate content validity and item modification.
For the present sample, adequate omega coefficients were observed for sport devaluation (Ω =
.78) and emotional and physical exhaustion (Ω = .88), but the omega for reduced sense of
accomplishment (Ω = .68) was slightly below the recommended threshold for adequacy.

**Data Analysis**
As in Study 1, simple moderation analysis was used to ascertain whether the effect of organizational stressors on burnout varied in magnitude and nature as a function of resilience (Hayes, 2009). The full procedure undertaken was as presented in Study 1, except in this study, given the older ages of the participants, and evidence that resilience may be related to age, we controlled for age within the analyses. Additionally, due to the smaller sample size, we did not conduct additional regression analyses controlling for resilience with the organizational stressor subscales in predicting burnout.

**Results**

Descriptive statistics and correlations can be seen in Table 4. For the main study variables, there was a significant positive relationship between the frequency of organizational stressors and burnout ($r = .38$, $p < .01$), providing support for Hypothesis 1b. In addition, a significant negative relationship between resilience and burnout ($r = -.56$, $p < .01$).

The simple moderation results are presented in Table 5. Consistent with Hypothesis 2b, resilience moderated the relationship between organizational stressors and burnout in coaches ($F (3,85) = 28.78$, $p < .001$, $R^2 = .49$). Indeed, for every one unit increase in resilience, there was a -.29 decrease in burnout ($b = -.29$, $t(85) = -6.78$, $p < .001$) and for every one unit increase in organizational stressor frequency, there was a 1.12 unit increase in burnout scores ($b = 1.12$, $t(85) = 3.52$, $p < .001$). The interaction between resilience and stressor frequency was $b = -.15$, $t(85) = -3.27$, $p < .001$. Interaction slopes for stressors predicting burnout showed that at low levels of resilience burnout scores increased by 2.06 units ($b = 2.06$, $t(85) = 4.27$, $p < .001$), and for coaches reporting high levels of resilience there was a non-significant increase in burnout ($b = .19$, $t(85) = .51$, $p = .61$). When age was added as a covariate, these findings were not significantly different.

The moderation findings are presented graphically in Figure 2.
This study provides a novel empirical examination of stress-resilience-burnout relationship in sports coaches. In a similar manner to Study 1, comparable conclusions can be drawn from the present study. That is, the findings provide evidence of the positive relationship between the frequency of organizational stressors and burnout, and the moderating effect of psychological resilience in coaches whereby, as psychological resilience increased, there was a significantly weaker relationship between organizational stressors and burnout. Hence, hypotheses H1b and H2b were supported.

Although the present study only offers a cross-sectional perspective, these findings indicate that the development of coaches’ psychological resilience characteristics might ameliorate reports of reduced accomplishment, physical and emotional exhaustion, and devaluation of coaching experienced in response to organizational stressors. In line with research on coach stress (e.g., Fletcher & Scott, 2010; Rhind, Scott, & Fletcher, 2013; Thelwell, Weston, Greenlees & Hutchings, 2008), it is not unreasonable to assume that more resilient coaches might also be more likely to experience positive outcomes as a result of positive responses to adversity (e.g., thriving, growth, adaptive coping resources) that might enhance their well-being. The findings of Study 2 echo the work of Lundkvist et al. (2012), whose findings pointed to the tendency for the accumulation of organizational stressors to lead to coach burnout. Indeed, the present findings also support Lundkvist et al.’s concluding remarks that better support should be provided to coaches to manage the “off-field” challenges associated with their role (cf. Fletcher & Scott, 2010).

General Discussion

The aim of the studies reported here was to examine the extent to which organizational stressor frequency was related to burnout and whether psychological resilience moderated any such relationship. The main finding to emerge from these studies is that the experience of athlete and coach burnout is moderated by the psychosocial dynamics within sport organizations (i.e., organizational stressors) and that psychological resilience reduces the strength of this relationship.
The findings across both samples indicate that all organizational stressor dimensions are positively related to all dimensions of burnout. That is, participants in the present studies reporting encountering a higher frequency of organizational stressors felt more exhausted, devalued their role in their sport organization, and felt they were accomplishing less in sport as an athlete or coach, when compared to those who reported fewer organizational stressors. These findings have similarity to past research revealing a relationship between unspecified perceived stress and burnout (e.g., Gould et al., 1996; Kelley et al., 1999; Raedeke & Smith, 2004). Further, several stressor-burnout dimension relationships in the present studies are noteworthy. There was a medium positive correlation in both samples between organizational stressor frequency and physical and emotional exhaustion ($r = .34$ and $.54$ respectively, $p < 0.01$), and a medium relationship being between goals and development demands and physical and the emotional exhaustion dimension of burnout. These findings parallel those of Chan (2003) who found role stressors to have main effects on emotional exhaustion in a sample of prospective teachers.

Further, the coach data indicated that the organizational stressors most strongly correlated to burnout were those aligned with goals and development and logistics and operations. In athletes, the stressors most strongly associated with total burnout scores were those aligned with team and culture demands. That organizational stressor dimensions were not related to resilience in the athlete sample is also noteworthy, but perhaps not surprising given the tenets of the meta-model of stress, emotions, and performance (Fletcher et al., 2006; Fletcher & Scott, 2010). That is, the meta-model posits that stress resides neither in the person nor in the environment, but in the relationship between the two. Hence, it is possible that resilience is one of a number of characteristics that moderate the stress process, while the components of perception, appraisal and coping mediate the relationship between stressors and responses (cf. Fletcher et al., 2006; Fletcher & Scott, 2010; Hanton et al., 2012; Raedeke & Smith, 2004). Indeed, in light of the present data, it might be beneficial to examine whether those who are more resilient perceive similar frequencies of stressors, but attend to, appraise, respond to, and cope with these differently to those who are less resilient.
The present examination of resilience as a moderating variable in the stress process is a step toward addressing calls by organizational stress researchers in sport to move beyond the examination of components of the stress process in isolation (e.g., Arnold & Fletcher, 2012; Fletcher et al., 2006, 2012), by investigating the effects of a moderating variable such as resilience. In doing so, the findings presented here indicate that interventions supporting resilience, designed to protect and sustain well-being and performance in the face of adversity, might benefit athletes and coaches in sport organizations (Fletcher & Sarkar, 2016). The findings parallel those in other professional domains in highlighting the importance of resilience for professional well-being such as social work (e.g., Kinman & Grant, 2011), teaching (e.g., Howard & Johnson, 2004), medicine (e.g., Zwack & Schweitzer, 2013), human service managers (Zunz, 1998), and nursing (e.g., Edward & Herculinskyj, 2007), physicians (e.g., Taku, 2014), civil servants (e.g., Hao, Hong, Xu, Zhou & Xie, 2015), and students (e.g., Dyrbye et al., 2010). The findings also align with a body of research that indicates training to better negotiate workplace stressors leads to a healthier and more engaged workforce (e.g., Arnetz, Nevedal, Lumley, Backman & Lublin, 2009; McCraty & Atkinson, 2012; Sood, Prasad, Schroeder, & Varkey, 2011). Researchers seeking to examine the relationship between organizational stressors and individual outcomes (e.g., attitudes, mental health and subjective well-being, psychosocial, physical/biological, and performance) in sport might adopt ideographic longitudinal designs. It will also be important to clarify which psychological resilience qualities best protect against which types of organizational stressors to prevent particular burnout dimensions (Sarkar & Fletcher, 2014b). Further, given the present findings, research examining the effectiveness of resilience-building at the individual, team and organization levels is relevant (see Wagstaff, Sarkar, Davidson, & Fletcher, 2017), and would also align with the calls by Wagstaff and colleagues for a positive organizational psychology of sport (POPS; Wagstaff et al., 2012a; 2012b).

In addition to the contribution to stress and resilience knowledge, the present studies also advance burnout theory. The findings presented in this article provide a step toward better...
conceptual understanding burnout in athletes and coaches and extends the research on the factors that mediate or moderate stress-burnout relationship. For example, Gustafsson et al.’s (2011) integrated model of athlete burnout outlines perfectionism, trait anxiety, low social support, lack of coping skills, goal orientation, and motivational climate as vulnerability factors. The present findings indicate that psychological resilience should be added to this list of factors. Despite these advances, much remains to be examined in terms of other antecedent (e.g., perceptions of control) and consequence (e.g., turnover) components related to burnout. For example, Kinman and Grant (2011) found a significant negative relationship between resilience and psychological distress in social workers. The authors highlighted that emotional and social competencies (i.e., emotional intelligence, reflective ability, empathy and social competence) were important protective factors and, therefore, present possible areas for researchers in sport to investigate. Elsewhere, in a narrative review, Strümpfer (2003) argued that there are other psychological variables allied with, or possibly subsumed by, resilience that might buffer against burnout; engagement, meaningfulness, subjective well-being, positive emotions, and proactive coping. Future research on resilience-burnout might seek to incorporate these variables.

While there is a considerable body of research examining athlete burnout, little of this research has resulted in the development of methods for successfully reducing the incidence of burnout in sport. There also remains a need for evidence-based research evaluating the design and effectiveness of stress management and resilience training interventions in sport. Given the present findings, we hope that sport psychology scholars are encouraged to conduct applied research to further examine the role of psychological resilience in the prediction of burnout in athletes, coaches, and others who operate in sport organizations. In doing so, these findings might serve to elevate the salience of psychological resilience in sport and galvanize its emerging place as a topic of interest into one of prominence within models of stress and burnout.

In addition to the theoretical advancement outlined above, it seems incumbent upon sport organizations to drive appropriate change to minimize demands for those individuals to whom they have a duty of care. While the development of intra-individual protective resources might be
quicker and easier, inter-personal and organizational level improvements connected to the individual in the workplace might have a more pervasive and long-lasting impact on burnout. That is, equipping individuals in sport organizations with techniques to reduce job stress is likely to be helpful (see Didymus & Fletcher, 2017), but such methods can be more effective if the organization also seeks to make operating in sport less stressful to begin with (cf. Fletcher et al., 2006; Rumbold, Fletcher, & Daniels, 2012; Fletcher & Sarkar, 2016). An organizational response to stress and burnout requires the recognition of the phenomena as a legitimate workplace problem and a sustained and systematic commitment to developing organization-wide preventative protocols and initiatives. Moreover, genuine efforts to prevent and alleviate burnout among athletes, coaches and other professionals within sport organizations (e.g., support staff) might also have purposeful or serendipitous positive effects, including increased performance, improved quality of work life, higher levels of satisfaction and commitment, and lower turnover (see, for a review, Wagstaff et al., 2017).

The main limitation of the present research is the use of a cross-sectional, self-report design. Such designs preclude analysis of the influence of moderating variables (i.e., resilience) on the stressor-burnout relationship over time. Hence, notwithstanding the replication of the main findings using independent samples presented here, the authors would encourage researchers to examine the longitudinal, predictive role of resilience in the stressor-burnout relationship. A second limitation relates to the respective measures used in the present research. The authors adopted an evidence-based selection process to identify the most suitable measures available, yet each measure has strengths and limitations. To elaborate, in the absence of a sport-specific measure of resilience (see Sarkar & Fletcher, 2013), we selected the CD-RISC-10 as the most appropriate available measure given Gucciardi et al.’s (2011) favorable evaluation of its psychometric properties. The current research provides further support for the use of the CD-RISC10 in sport. Nevertheless, we reiterate recent calls for the development of a measure of psychological resilience for specific use in sport contexts (see Gucciardi et al., 2011; Sarkar & Fletcher, 2013, 2014) and for the purpose of greater conceptual-measurement harmony.
Researchers should also continue to seek and utilize the most psychometrically robust inventories to measure coach burnout given the low omega coefficients (.64 and .68 respectively) observed for the reduced sense of accomplishment subscales in the present studies. We would also advise caution when interpreting the team and culture subscale data from Study 1 for similar reasons (i.e., $\alpha = .62$), and encourage researchers to undertake further validation of the psychometric properties of this measure to ensure researchers’ confidence in its use. Moreover, although a recent review of the available coach burnout measures championed the use of the CBQ over alternatives (e.g., MBI, OBI), the original validation of this measure was conducted in Lithuanian and not English. Hence, further evidence of its validation might enhance confidence in its utility. A possible third limitation relates to the potentially confounding effects of the athlete sample demographics. That is, a sample of largely young ($M = 21$ years), male (57%), competitive athletes (37%) was included. Despite the moderate imbalance toward non-elite young males, we do not believe that the data were biased or unrepresentative of competition level, given the sampling of county (27%), regional (13%), national (14%), and international (8%) participants. Nevertheless, the reader should note the imbalanced gender and age sampling when drawing conclusions from these data.

In summary, our results corroborate and extend theory and research linking stressors and burnout in athletes and coaches, and illustrate the role of resilience in this relationship. Indeed, these findings offer a novel empirical examination of resilience as a moderator of the organizational stress-burnout relationship, and significantly contribute to extant mechanistic knowledge. Hence, these results highlight the role that resilience plays in burnout and add to the broader literature on each of the main variables in the general psychology domain. Future research is needed that assesses the influence of resilience on other well-being and performance outcomes in the stress process, and the efficacy of resilience-building interventions at intra-individual, inter-individual and environmental levels, to prevent burnout.
References


applications (pp. 83-100). Abingdon, UK: Routledge.


Taku, K. (2014). Relationships among perceived psychological growth, resilience and burnout in
STRESSORS, RESILIENCE AND BURNOUT


Figure 1. Plot of the interaction between the frequency of organisational stressors and resilience in predicting burnout in athletes.
Figure 2. Plot of the interaction between the frequency of organisational stressors and resilience in predicting burnout in coaches
Table 1. Correlations and descriptive statistics for athletes.

<table>
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Note: ABQ and OSISP Frequency are Mean scores. G & D: goals and development; L & O: logistics and operations; T & Cu: team and culture; Co: coaching; S: selection; PEE: physical and emotional exhaustion; SD: sport devaluation; RA: reduced accomplishment; **p < .01; * p < .05 (2-tailed).
Table 2. Simple moderation analysis for athletes.

<table>
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Note. Interaction: frequency of stressors x resilience. aBootstrap sample size = 1,000. b95% confidence intervals.
Table 3. The prediction of burnout from organizational stressor subscale and resilience scores.

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* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$
Table 4. Correlations and descriptive statistics for coaches.

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Note: ABQ and OSISP Frequency are Mean scores. G & D: goals and development; L & O: logistics and operations; T & Cu: team and culture; Co: coaching; S: selection; PEE: physical and emotional exhaustion; SD: sport devaluation; RA: reduced accomplishment; **p < .01; * p < .05 (2-tailed)
Table 5. Simple moderation analysis for coaches.

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Note. Interaction: frequency of stressors x resilience. aBootstrap sample size = 1,000. b95% confidence intervals