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1 Running Head: COACHES' PERCEPTIONS OF STRESS

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9 Personal and Situational Factors Influencing Coaches' Perceptions of Stress

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Abstract

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2 Coaching has been recognised as a demanding occupation, associated with a range of
3 stressors. The extent to which coaches perceive stress is likely to be influenced by various
4 personal and situational factors. The purpose of this study was to identify coaches' levels of
5 perceived stress and examine the personal and situational factors that may influence coaches'
6 perceptions of stress. In total, 502 coaches working with university, college, Canada Games,
7 and/or nationally identified athletes completed this study. Coaches completed an online
8 survey, which included questions regarding demographics, work/job-related considerations,
9 and aspects relating to their contract. Coaches also completed the Perceived Stress Scale
10 (Cohen, Kamarck, & Mermelstein, 1983). Overall coaches indicated slightly below average
11 levels of perceived stress ($M= 15.13$ out of 40) compared to norm-values (Cohen & Janicki-
12 Deverts, 2012). Demographic factors, job-related characteristics, and certain aspects of their
13 contract were associated with coaches' perceptions of stress. Particularly, unclear
14 expectations, long-working hours (>40), lack of agreed upon evaluation criteria, higher
15 salaries, and a lack of social support were related to higher perceptions of stress. As such, the
16 findings of the current study indicate that a reduction in perceived stress is likely to be
17 achieved through a multi-faceted approach that addresses multiple factors associated with
18 coaching.

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21 Key Words: Coaching, social support, work demands, contractual issues

1 **Personal and Situational Factors Influencing Coaches' Perceptions of Stress**

2 Coaching is a demanding profession associated with a range of stressors. Further it is
3 recognised that encountering such stressors can result in a number of negative responses
4 (Fletcher & Scott, 2010). For example, negative responses to stressors include decrements in
5 coaching performance because coaches' ability to work and focus upon tasks may be reduced
6 (Frey, 2007; Olusoga, Butt, Maynard, & Hays, 2010; Thelwell, Weston, Greenlees & Hutchings,
7 2008). Coaches perceiving high levels of stress might also experience a range of negative
8 physical and mental health outcomes, including mental fatigue, reduced life and job satisfaction,
9 decreased enjoyment and motivation, and, in some cases, burnout (e.g., Kelley, 1994; Kelley &
10 Gill, 1993; Olusoga et al., 2010; Pastore, 1991). Given the potential negative consequences of
11 stress, developing a thorough understanding of coaching stress is necessary (Fletcher & Scott,
12 2010).

13 Examinations of coaching stress have increasingly adopted or referred to Fletcher and
14 colleagues' (Fletcher & Fletcher, 2005; Fletcher, Hanton & Mellalieu, 2006; Fletcher & Scott,
15 2010) meta-model of stress, emotions, and performance. Based largely on Lazarus' (1999)
16 transactional theory of stress, emotion, and coping, Fletcher and colleagues' model provides an
17 overview of the stress process in performance contexts. The model illustrates the interactions
18 between stressors, perceptions, appraisals, and coping, and the resultant positive or negative
19 responses, feeling states, and outcomes (Fletcher et al., 2006).

20 The model comprises three stages. The first stage identifies that all individuals encounter
21 environmental demands but the consequences of encountering these demands (i.e., the positive
22 or negative responses) depend upon an individual's perception and initial cognitive appraisals of
23 the demands in relation to their personal resources. An individual will experience strain when the

1 demands (stressors) they experience and their resources do not match (Fletcher & Fletcher,
2 2005). The second stage illustrates the role of an individual's appraisal of their emotions in
3 relation to their performance, resulting in a positive or negative feeling state. A negative feeling
4 state will emerge if an individual appraises their emotions to have a debilitating effect on their
5 performance. The final stage is focused upon how an individual copes with the feeling states that
6 arise, leading to positive or negative outcomes. Thus, sub-optimal performances or well-being
7 (so in the case of coaches it might be a decreased ability to coach) are seen to result from an
8 inability to cope or the use of ineffective coping strategies (Fletcher & Fletcher, 2005). The
9 model also posits that all three stages of this process are influenced by various personal and
10 situational characteristics (Fletcher & Fletcher, 2005; Fletcher et al., 2006).

11 Within the coaching literature, research has mainly focused upon three aspects of the
12 model: (a) the identification of stressors coaches encounter, (b) the potential (usually negative)
13 consequences that can emerge when coaches encounter stressors, and (c) the coping strategies
14 utilised by coaches (Fletcher & Scott, 2010). Initial understanding of coaching stress developed
15 from studies examining burnout and dropout among coaches (e.g., Kelley, 1994; Kelley & Gill,
16 1993; Kroll & Gundersheim, 1982; Pastore, 1991). Overall these studies consistently highlighted
17 that perceptions of stress, levels of social support, and coaches' commitment were correlated
18 with burnout. That is, coaches who perceived higher levels of stress and low levels of social
19 support and commitment were more likely to burn out of the profession (see Goodger, Gorely,
20 Lavalley, & Harwood, 2007 for review). These studies also highlighted stressors such as the
21 extensive time demands associated with coaching, time spent away from family, and a lack of
22 financial incentives as possible reasons coaches would leave the coaching profession.

1 More recently, a number of qualitative studies have been conducted in the US and the
2 UK, which have specifically sought to identify the stressors coaches encounter. Frey (2007)
3 conducted a study of 10 NCAA Division one head coaches. Frey identified stressors ranging
4 from interpersonal and personal sources (e.g., being dependent on others' performance and self-
5 imposed pressure) to task-related issues (e.g., extensive time demands and difficulties associated
6 with recruiting athletes). Adding to Frey's work, researchers in the United Kingdom examined
7 the stress-related experiences of coaches working at the highest level of their sport ("elite" or
8 "world class" coaches) (Levy, Nicholls, Marchant, & Polman, 2009; Olusoga et al., 2009, 2010;
9 Thelwell et al., 2008). These studies highlighted coaching stressors related to athletes'
10 performance and training (e.g., conflict), coaches' own performance (e.g., pressure and
11 expectation), and a range of organisational factors (e.g., leadership issues, administration
12 demands).

13 In addition to identifying the stressors coaches encountered, some of the aforementioned
14 studies also explored the coping strategies coaches employed. Coaches indicated using a range of
15 cognitive strategies (e.g., focusing on factors under their control, keeping things in perspective),
16 emotional control strategies (e.g., social support, visualisation, distraction, and utilising social
17 support), and behavioral strategies (e.g., avoidance, exercising, planning, and reading) to cope
18 with the stressors they encountered (Frey, 2007; Levy et al., 2009; Olusoga et al., 2009, 2010;
19 Thelwell et al., 2008). Further, Levy and colleagues (2009) evaluated the effectiveness of the
20 coping strategies the coaches in their study employed. Overall, it appeared coaches' coping
21 strategies were effective, but, over the 28-day study period, coping effectiveness declined.

22 Collectively, the above studies provide strong support for Fletcher and colleagues'
23 (Fletcher et al., 2006; Fletcher & Fletcher, 2005) meta-model. However, there are still a number

1 of areas that require further exploration (Fletcher & Scott, 2010). Firstly, there appears to be a
2 need to quantitatively examine the extent to which coaches perceive they are experiencing stress.
3 Perceptions of stress are a measure of the extent to which individuals appraise the situations they
4 encounter to be stressful (i.e., result in feelings of strain) (Cohen et al., 1983). The mostly
5 qualitative research that has been conducted to date has provided great insight into the extensive
6 range of discrete stressors coaches might encounter. However, the severity of a stressor is
7 underpinned by a number of factors, such as uncertainty, duration, ambiguity, and timing
8 (Lazarus & Folkman, 1984). These factors may not be fully captured in qualitative studies,
9 which seek simply to identify stressors coaches encounter. Based on the volume of stressors
10 coaches have recalled in previous literature, it might be tempting to conclude they experience
11 high levels of stress. However, this may not necessarily be accurate. Rather, their perceptions of
12 stress are likely to depend upon a number of factors, such as the severity of the stressors
13 encountered, their appraisals of the stressors, and their perceived ability to cope with the
14 stressors (Fletcher & Scott, 2010). As such, although research identifying the stressors coaches
15 encounter has provided important insight into some of the demands coaches are encountering, a
16 quantitative examination to identify the extent to which coaches perceive stress on a more
17 general level would add to the current body of literature.

18 Another area that requires examination is the personal and situational factors that
19 influence perceptions of stress (Fletcher & Scott, 2010). Although Fletcher and colleagues' meta-
20 model indicates that an individual's perceptions, appraisals, and responses are likely to be
21 influenced by a range of factors, limited attention has been given to identifying these –
22 particularly in a coaching population (Fletcher & Scott, 2010). Some situational characteristics
23 that influence perceptions of stress have been identified in more recent studies of coaching stress.

1 For example, Frey (2007) identified four contextual factors that influenced college coaches'
2 perceptions of stress: Level of competition, previous success of the program, coaches' age and
3 years of experience, and being married to the co-head coach. These initial findings point to the
4 potential for research in this area and a quantitative study on this topic could be useful to assess
5 the relative influence of multiple variables on coaches' perceptions of stress.

6 To date the majority of information pertaining to personal and situational factors that
7 could influence perceptions of stress has emerged from studies of coach burnout (e.g., Kelley,
8 Eklund, & Ritter-Taylor, 1999). These studies indicated that factors such as time in the season
9 (Kelley, 1994), gender of the coaches (Kelley et al., 1999), years of experience (Kelley & Gill,
10 1993), and trait anxiety (Vealey, Udry, Zimmerman, & Soliday, 1992) influenced coaches'
11 perceptions of stress and coach burnout. Additional understanding of this area can be gained
12 from research examining coaches' job satisfaction and factors influencing coach retention (e.g.,
13 Allen & Shaw, 2009; Dixon & Warner, 2009; Inglis, Danylchuk, & Pastore, 1996). This research
14 has highlighted that factors such as organisational support, flexibility and control, quality of
15 supervision, salary, relations with others, and recognition of coaches' contributions might
16 influence the satisfaction coaches have with their position and their intentions to remain in the
17 role. Thus, it could be speculated that such factors might influence perceptions of stress.

18 By drawing on the broader organisational stress literature and research examining other
19 professions that have some similarities to coaching (e.g., service professions, where individuals
20 are interacting with other people and required to deliver specific outcomes, often in a pressured
21 environment), it is possible to identify other factors that could influence coaches' perceptions of
22 stress. For example, research examining health-professionals has indicated that factors such as a
23 lack of control over work and poor social support are associated with perceptions of stress and

1 athletes, and 374 coaches of nationally identified (carded) athletes. A total of 819 responses were
2 received, equaling a 43% response rate. Of the 819 coaches who responded, 502 coaches
3 provided sufficient data to be included in this study (i.e., they completed the Perceived Stress
4 Scale as outlined below). The information provided is based on the 502 participants who
5 completed the entire survey. See Table 1 for demographic characteristics.

6 ***** **Table 1** *****

7 **Procedure**

8 University Ethics Board approval was obtained to conduct this study. Permission was
9 then received from the Coaching Association of Canada to access the email addresses and send
10 an e-mail with a link to an online survey to all of the coaches registered with the Coaching
11 Association of Canada. The initial email included a description of the study and a hyperlink to an
12 informed consent document and the web-based questionnaire. Coaches consented to participate
13 in the study by clicking the appropriate button to open the questionnaire. Three follow-up
14 reminders were sent to non-responding coaches over a six-week period.

15 **Data Collection**

16 As part of a larger exploratory study, a questionnaire was developed to assess factors
17 influencing coaches' perceived levels of stress. The sections of the questionnaire relating to
18 stress were developed based upon factors commonly associated with perceptions of stress
19 identified in the coaching and organisational stress literature (Fletcher & Scott, 2010; Lloyd, et
20 al., 2002; Michie & Williams, 2002; Verhoeven et al., 2003). These factors were demographic
21 and personal variables (e.g., age, gender, education), job/coaching characteristics (e.g., job type,
22 job income and benefits), and contract characteristics (e.g., job descriptions and clear

1 expectations, evaluation criteria and processes, and job content and control). These sections are
2 described in detail below. Further details can be obtained from the lead author.

3 After the draft questionnaire was created, a team of researchers including professors,
4 graduate students, and current or former high-performance athletes and coaches reviewed the
5 proposed survey. The entire study addressed many aspects of coaching behaviours, work
6 environments, and coaching contexts. Necessary modifications, such as the addition of more
7 questions relating to coach evaluation, were made based on the feedback from the review. The
8 instrument was then administered to a small group of competitive sport coaches for review and
9 final revisions were made. Revisions included the removal of questions relating to perceived
10 coaching competence, not relevant to this analysis, and rewording of questions regarding salary.

11 **Status of the Coach Survey**

12 The final survey was split into sections covering different topics. These sections were: (a)
13 Demographic and personal information, (b) coaching/job-related characteristics, (c)
14 characteristics of the coaching contract, (d) characteristics and expectations of the coaching job,
15 and (e) perceived levels of stress, and open ended comment boxes soliciting further information
16 the coaches thought would be important.

17 **Demographic and Personal Information.** Information including sex, age, first
18 language, marital status, income, education, and social support were collected. Social support
19 was measured using the tangible social support scale from the 12-item version of the
20 Interpersonal Support Evaluation List (Cohen, Mermelstein, Kamarck, & Hoberman, 1985).
21 Items included: “If I were sick, I could easily find someone to help me with my daily tasks”, and
22 “If I had to go out of town for a few weeks, it would be difficult to find someone who would
23 look after my house or apartment.” Items were scored on a 4-point likert scale. All other

1 demographic information was obtained through categorical scales created specifically for this
2 study.

3 **Coaching/Job-related Characteristics.** Seven questions assessed coaching/job related
4 characteristics. These seven questions examined, (a) the type of athletes coaches were working
5 with (e.g., Canadian Interuniversity sport; provincial team athletes), (b) the number of coaching
6 positions currently held, (c) the number of hours coaches worked in their main coaching position,
7 (d) whether coaching was their primary source of income, (e) their intention to remain in their
8 current position, and (f) their intention to remain in coaching. For example, coaches were asked,
9 “What hours do you work for your coaching position?” and, “How much longer do you plan to
10 remain in this position?”

11 **Characteristics of the Coaching Contract.** Sixteen questions examined characteristics
12 associated with the coaching contract. Contract characteristics included questions regarding
13 whether coaches had a formal coaching contract (e.g., “Did you sign a formal coaching
14 contract?”), job description and duties (e.g., “Is there a formal written job description for your
15 position?”), expected work schedule (e.g., “Which of the following best describes your work
16 schedule?”), and coaching evaluation criteria (e.g., “How important are each of the following
17 criteria to your evaluation?” 12 options including: athletes’ feedback; fundraising; management
18 of the budget; compliance to the contract; performance of administrative tasks, were provided).
19 Responses were given on 5-point Likert scales.

20 **Perceived Stress.** To assess coaches’ levels of perceived stress, the 10-item Perceived
21 Stress Scale was used (Cohen et al., 1983). Questions included “In the last month, how often
22 have you been upset because of something that happened unexpectedly?” and “In the last month,

1 how often have you felt that you were unable to control the important things in your life?”

2 Responses were given on a 5-point Likert scale.

3 **Data Analyses**

4 **Perceptions of Stress.** A total perceived stress score is calculated by reversing responses
5 to the four positive items and then summing across all the scale items. The range of this scale is 0
6 to 40, with higher values indicating higher perceived stress.

7 To calculate the overall level of perceived stress for this sample, the individual score of each
8 coach was calculated, and the sample mean was calculated.

9 **Factors Influencing Perceptions of Stress.** The data were analysed using SPSS version
10 18.0. In the first set of analyses, ANOVAs were conducted to determine specific levels of
11 variables that differentiated coaches perceiving higher or lower stress. Post-hoc LSD (least
12 significant difference) tests were conducted to follow up statistically significant multivariate
13 tests. To further understand the relationships between income, age, and perceived stress,
14 bivariate correlations were conducted.

15 Multiple regression analyses were also conducted based on the significant findings from
16 the ANOVA analyses and the correlation analyses. The purpose of the regressions was to
17 determine which of the variables contributed most to the reported stress. A multiple regression
18 was performed with perceived stress as the dependent variable and gross annual salary for the
19 coaching position, agreed upon evaluation criteria, highest level of education, and expectation to
20 work more than 40 hours as the independent variables. Level of social support was also included
21 in the regression analysis because it has been consistently identified as a factor influencing
22 coaching stress and burnout (Fletcher & Scott, 2010).

23

Results

1 Overall levels of perceived stress are presented, followed by the factors influencing
2 coaches' perceptions of stress. Due to the considerable amount of data generated in this study,
3 only a brief overview of non-significant findings is provided. A more in-depth account of
4 statistically significant findings is presented.

5 **Perceived Stress**

6 The coaches had a mean perceived stress score of 15.13 (SD = 6.71; min = 0, max = 36)
7 with the 95% confidence interval spanning 14.54 to 15.71, which appears to be very similar to
8 the norm values for perceived stress. Norm groups indicated a mean perceived stress score for
9 males of 15.52 (S.D. = 7.44) and for females of 16.14 (S. D – 6.86) (Cohen & Janicki-Deverts,
10 2012).

11 **Factors Associated with Perceived Stress**

12 **Non-significant results.** The demographic variables that were not significantly
13 associated with differences in perceived stress were: age, sex, annual income, and total
14 household income. The coaching/job characteristics that were not significantly associated with
15 coaches' perceptions of stress were type of athletes coached (e.g., university athletes, carded
16 athletes), length of time intended to keep coaching, employment type (self-employed or not),
17 whether they were self-employed or not, and expectation to work designated hours.
18 Characteristics of the contract that did not significantly contribute to coaches' perceptions of
19 stress were the importance of athlete feedback, coach's contribution to the overall organisation,
20 performing administrative tasks, contribution to the sport, achievement of athlete or team, athlete
21 recruitment, organisation development, fundraising, quality of coaching, type of reward or
22 recognition for success. All p 's > .05.

1 that coaches with a greater salary who have an agreed upon evaluation criteria, that work more
2 than 40 hours per week, with low levels of social support have the highest perceptions of stress.
3 Between the four independent variables, level of social support, then coaching salary and
4 working more than 40 hours per week are slightly more important to perceived stress than having
5 an agreed upon evaluation scheme, as indicated by the squared semi-partial correlations.

6 *****Table 4*****

7 **Discussion**

8 The purposes of this study were to identify coaches' levels of perceived stress and
9 examine the personal and situational factors that may influence coaches' perceptions of stress.
10 Overall, the coaches in this study indicated a slightly below average level of stress (compared to
11 norm values; Cohen & Janicki-Deverts, 2012), scoring an average of 15.13 (SD = 6.71; min = 0,
12 max = 36) out of 40 on the Perceived Stress Scale. This relatively low perception of stress was
13 unexpected and appears to oppose the commonly held belief that coaching is a demanding and
14 stressful profession.

15 This finding might indicate that although coaches encounter numerous stressors (e.g.,
16 Frey, 2007; Thelwell et al., 2008), the severity of these stressors could be relatively low and
17 coaches' appraisals of stressors could also differ, which could contribute to a relatively low
18 perception of stress. Additionally, this finding might also point to the importance of examining
19 coping when studying stress (Fletcher & Scott, 2010). That is, coaches' ability to cope and the
20 coping strategies they employ will influence the extent to which the stressors they encounter
21 result in negative feelings and influence overall perceptions of stress. Thus, the relatively low
22 levels of perceived stress in this study might indicate that these coaches employ effective coping
23 strategies to deal with the stressors they encounter. However, conclusions regarding coping

1 strategies cannot be made with the available data. Future research examining the severity of
2 different stressors and coping, particularly with regard to their contribution to perceptions of
3 stress, is needed. Nevertheless, overall, these findings appear to provide support for Fletcher and
4 colleagues' (Fletcher et al., 2006; Fletcher & Scott, 2010) meta-model of stress, emotions, and
5 performance.

6 Having identified coaches' perceptions of stress, the current study sought to identify
7 which personal and situational factors influenced coaches' perceptions of stress. Consistent with
8 Fletcher and colleagues' (Fletcher & Fletcher, 2005; Fletcher et al., 2006) meta-model, a number
9 of personal and situational factors were identified that influenced coaches' perceptions of stress.
10 However, interestingly, a number of factors that have previously been identified as influencing
11 coaches' perceptions of stress or related to coach burnout were not significantly related to
12 perceived stress in the current study. For example, previous research has indicated that coaching
13 stress may be higher in men than women and that older coaches perceive less stress than younger
14 coaches (e.g., Frey, 2007; Kelley et al., 1999). The ANOVA for gender and age showed they
15 were not significantly associated with coaches' perceived stress. Similarly, numerous factors
16 associated with the coaching-role and the requirements of coaches, which have previously
17 emerged as factors influencing coaching stress, such as achievement of the athlete or team and
18 recognition of success (e.g., Frey, 2007; Olusoga et al., 2010; Thewell et al., 2008), were not
19 significantly related to coaches' perceptions of stress in the current study.

20 The differences between the findings of the current study and previous research relating
21 to coaching requirements may be due to the relatively low-levels of stress recalled by
22 participants in this study, reducing the extent to which differences in perceptions of stress could
23 be identified. Further, it may be a result of the different samples that have been measured in

1 different studies. The current study included coaches working in a range of positions, with
2 different types of athletes and receiving different remuneration for their services. As such, this
3 sample might be influenced by different factors than coaches working solely at high-school or
4 college, whose stress might arise due to the dual-nature of the job (e.g., Frey, 2007; Scantling
5 and Lackey, 2005) or elite coaches working under extreme demands associated with winning
6 medals at international competitions (e.g., Olusoga et al., 2010). For example, this study included
7 volunteer coaches who might perceive fewer responsibilities for recruiting athletes than coaches
8 whose sole income is dependent on the athletes they recruit to be successful.

9 Additionally, the quantitative approach to examining the relationships between stressors
10 and perceived stress simply reveals those relationships that are statistically significant. The
11 multivariate analysis allows us to examine the relationships among multiple predictor variables
12 and a specific dependent variable in order to identify those predictors that are most strongly
13 related to the dependent variable, over and above the other variables considered in the analysis.
14 In previous research, variables have been considered singularly, or descriptively, as relating to
15 coaches' perceived stress, and a large list of factors has been identified that might be important
16 contributors to coaches' perceived stress. A multivariate approach assists us in identifying the
17 overall predictive capability of the entire set of possible predictors as well as the unique (partial)
18 effects of each individual predictor, yielding a smaller set of variables most likely to account for
19 the most variance in coaches' perceptions of stress (cf. Cohen, Cohen, West, & Aiken, 2003).

20 Interestingly, the types of athletes coaches were working with (i.e., University, College,
21 nationally-identified, or Canadian games athletes) were also not significantly associated with
22 perceived stress. Previous research has indicated that coaches working at the elite-level may be
23 experiencing more pressures and demands than coaches' working with college athletes (e.g.,

1 Olusoga et al., 2010). However, reiterating our earlier point, just because coaches working with
2 different types of athletes may encounter *more* or *different* stressors (see Frey, 2007 compared to
3 Thelwell et al., 2008), it does not necessarily mean that coaches perceive higher levels of stress.
4 As such, as pointed out by Fletcher and Scott (2010), to conclude that one coach is experiencing
5 more stress than another coach simply because they recalled more stressors may be
6 oversimplifying the stress process.

7 In general it appeared that coaches' perceptions of stress were less affected by
8 demographic and job/work-related characteristics than they were by factors associated with their
9 contracts. This is an area that has received limited attention within the coaching literature. Given
10 that coaches' contracts dictate their job requirements, their evaluation criteria, and the
11 consequences associated with succeeding or failing, it is understandable that these factors might
12 influence coaches' perceptions of stress. In the current study, it was apparent that having a
13 contract but not having clear criteria associated with evaluation (especially agreed upon
14 evaluation criteria, and unclear work hour expectations) were associated with perceptions of
15 stress. Such findings replicate research conducted in organisational psychology, which have
16 indicated that role ambiguity and role expectations are associated with stress in a variety of
17 occupations (Lloyds et al., 2002; Verhoeven et al., 2003). However, these findings also extend
18 previous research by clearly identifying specific contractual issues reflecting work role
19 ambiguity and expectations. That is, these findings illustrate the importance of evaluations being
20 conducted based on agreed upon criteria, so that coaches know what is expected of them and can
21 appropriately focus their efforts and attention.

22 Further, the findings of the current study illustrate the additional importance of providing
23 clear expectations for coaches who receive a higher salary and have lower social support. The

1 current study indicated that having a salary at all (>\$0 <\$5K) and having a high salary are
2 associated with greater perceptions of stress than other salary groups. A possible explanation for
3 this is that there are less clear evaluation criteria and expectations in the first category, whereas
4 there is more peer comparison in the latter category and perhaps higher performance
5 expectations. A follow up regression analysis examining the independent relationships of having
6 a contract, having agreed upon evaluation criteria, and >40 hours work expectations was
7 conducted to elucidate this issue. This analysis showed that, despite the ANOVA showing higher
8 perceived stress among those who have a contract than among those who do not, having a
9 contract did not account for significant variance in stress levels whereas both the lack of agreed
10 up on evaluation criteria and the >40 hour work expectation did, when all variables are
11 considered simultaneously.

12 From a practical standpoint, the influence of contractual factors upon coaches'
13 perceptions of stress provide some relatively clear and simple ways to help reduce coaches'
14 perceptions of stress. At the coach level, these findings highlight the importance of coaches
15 engaging in discussions with their employer to establish clear work expectations, which are
16 regularly evaluated against agreed upon criteria. However, the responsibility cannot only lie with
17 the coach. At the organisational level, these findings illustrate the importance of organisations
18 ensuring that coaches receive contracts and are regularly evaluated. Thus, one recommendation
19 based upon these findings would be for national sporting or coaching bodies to work with local
20 and regional organisations to develop contracts and provide guidance regarding conducting
21 coaching evaluations. National sporting bodies could include information regarding contractual
22 issues within their coach education modules, which would help to ensure coaches had the tools
23 they needed to begin negotiations regarding contract development and evaluation. Such

1 education is likely to be important for all coaches, but targeting the coaches working at the
2 higher levels of sport (e.g., those earning a larger salary) is likely to be particularly important.

3 **Limitations and Future Directions**

4 The current study provided insight into a wide variety of factors associated with coaches'
5 perceptions of stress. However, due to the exploratory nature of the study, the survey created
6 could not attend to all the potential factors associated with coaching stress, such as personality
7 factors. Future research building upon the factors that emerged as significantly related to
8 perceptions of coaching stress in this study and including other items, such as personality factors,
9 is warranted. It might also be useful to develop a viable measure of sport specific stressors or
10 coaching specific stressors to better define the basic expectations of the job of coaching, and to
11 better understand the differences between day-to-day demands and factors that are likely to
12 significantly influence coaches' mental health.

13 The sample in this study was relatively large (502 participants), including coaches
14 working with a variety of athletes at a variety of competitive levels. As such, the findings of this
15 study are representative of a wide-variety of coaches in Canada. Unfortunately, over 300
16 participants that completed the larger survey did not complete the perceived stress scale. It is
17 possible these participants may have chosen not to complete this scale because they perceived
18 very high or very low levels of stress, which may have altered the overall findings of this study.
19 Future research replicating this study would help to further illustrate the factors influencing
20 coaches' perceptions of stress.

21 Those coaches who were self-employed, did not have a contract, and did not earn very
22 much money, all indicated lower perceptions of stress. Although we cannot provide a conclusive
23 reason for this based on the data collected in this study, we speculate that it may be because these

1 coaches have higher perceptions of control over their coaching as well as lower expectations of
2 being evaluated. Such perceived control may arise because these coaches could be working as
3 volunteers, and as such have more choice over when they coach or if they coach. As mentioned
4 previously, a lack of control has been identified as a contributing factor to perceptions of stress
5 in a variety of occupations (e.g., Michie & Williams, 2002). However, we did not assess control
6 or choice in this study. Thus, we would recommend this as an important area for future research.

7 **Conclusion**

8 The current study indicated that coaches working in Canada with university, college,
9 nationally identified, and Canadian games athletes perceive levels of stress no higher than those
10 observed in normative samples. Coaches' perceptions of stress were significantly influenced by
11 the hours they work, whether they have a contract, the importance of compliance to this contract,
12 the need to manage a budget, whether they have a mutually agreed upon evaluation, and their
13 salary. Overall, it appeared that having to work more than 40 hours per week and lacking agreed
14 upon evaluation, combined with a high salary were the strongest predictors of perceived stress.
15 These findings provide support for Fletcher and colleagues' (Fletcher et al., 2006; Fletcher &
16 Fletcher, 2005; Fletcher & Scott, 2010) meta-model of stress, emotion, and performance and
17 point to the importance of multi-faceted approaches to addressing coaching stress.

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Table 1.

<i>Demographic Characteristics</i>	
N	502
Mean age, years	43
Female, n (%)	130 (25.9)
Mother tongue, n (%)	
English	415 (82.8)
French	79 (15.8)
Education - highest level, n (%)	
High School or Equivalent	34 (6.8)
College or Certificate	84 (16.8)
Bachelor's in related degree	85 (17.0)
Bachelor's in unrelated degree	157 (31.3)
Master's in related degree	63 (12.6)
Master's in unrelated degree	56 (11.2)
Ph.D.	15 (3.0)
Marital Status, n (%)	
Single	110 (22.0)
Married/Common Law	355 (70.9)
Separated/Divorced	33 (6.6)
Widowed	1 (0.2)
Income in dollars, n (%)	
0	72 (14.4)
<5000	69 (13.8)
5000-9999	57 (11.4)
10000-19999	46 (9.2)
20000-39999	48 (9.6)
40000-59999	95 (19.0)
60000-74999	56 (11.2)
75000+	46 (9.2)
Did not respond	11 (2.2)
Social Support, M (S.D)	3.31 (.53)

Table 2

Statistically Significant ANOVA and Multiple Comparison Results Comparing Coaches Perceived Stress by Demographic, Coach/Job Characteristics, and Contract Characteristics

Item	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i> -value	η^2	Significant Comparisons (according to LSD)	<i>p</i> -values
Demographic							
Education			3.57	.002	.04		
1. High school	13.94	6.83				vs. 5	.017
2. Certificate	14.56	6.91				vs. 5	.013
3. B.Sc. (Coach)	16.28	5.94				vs. 6, 7	.003, .017
4. B.Sc. (Non-Coach)	15.18	6.79				vs. 5, 6	.031, .027
5. Master (Coach)	17.32	6.99				vs. 1,2,4,6,7	.017, .013, .031, .000, .004
6. Master (Non-Coach)	12.91	5.83				vs. 3,4,5	.003, .027, .000
7. Ph.D.	11.71	7.11				vs. 3,5	.017, .004
Coach/Job Characteristics							
Hours			8.19	.000	.05		
1. Full-time	16.56	6.45				vs. 2,3	.000, .001
2. Part-time	13.55	6.59					
3. Irregular	13.51	6.65					
4. Other	14.76	6.38					
Overtime			28.00	.000	.06		
1. With Remuneration	14.61	6.50					
2. Without Remuneration	19.74	6.40					
Contract Characteristics							
Contract			7.79	.005	.02		
1. Yes	15.72	6.54					
2. No	13.98	6.81					

Compliance to contract			2.91	.021	.03		
1.	Not at all important	12.11	6.11			vs. 2,3,4,5	.022, .020, .001, .011
2.	Somewhat important	16.04	5.71			1	.022
3.	Middle importance	15.07	6.68			1	.020
4.	Important	16.22	6.80			1	.001
5.	Very important	15.24	6.80			1	.011
Managing Budget			2.46	.045	.03		
1.	Not at all important	13.53	6.96			vs. 2,5	.043, .019
2.	Somewhat important	16.52	6.99			vs. 1	.043
3.	Middle importance	15.00	6.74				
4.	Important	14.60	6.06			vs. 5	.019
5.	Very important	16.58	6.61			vs. 1,5	.019, .019
Peer Comparison			2.89	.022	.03		
1.	Not at all important	14.52	6.33			vs. 5	.003
2.	Somewhat important	14.29	6.11			vs. 5	.002
3.	Middle importance	15.07	6.77			vs. 5	.004
4.	Important	15.09	5.30			vs. 5	.009
5.	Very important	18.38	7.39			vs. 1,2,3,4	.003, .002, .004, .009
Mutually Agreed Evaluation			11.70	.001	.03		
1.	Yes	13.98	5.97				
2.	No	16.29	6.89				
Salary			5.813	.000	.078		
1.	\$0	12.17	5.71			vs. 4, 5, 6,7	.003, .000, .000
2.	\$<5000	13.65	5.88			vs. 4, 5, 6,7	.003, .001
3.	\$5,000-\$9,999	13.81	6.66			vs. 4,5,6,7	.003, .035
4.	\$10,000-19,000	16.41	7.46			vs. 1,2,3	.000, .003
5.	\$20,000-39,999	16.60	5.83			vs. 1,2,3	.000, .001, .035
6.	\$40,000-59,999	16.35	6.27			vs. 1,2,3	
7.	\$60,000-74,999	17.98	7.35			vs. 1, 2, 3,	
8.	\$75000+	15.65	6.32			vs. 1	

Note. M = mean, SD = standard deviation, coach = coaching related degree, non-coach = degree not related to coaching.

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Table 3

Pearson Correlations for Perceived Stress, Age, and Income

Variable	1. Age (year of birth)	2. Income for Primary Coaching Position	3. Total Gross Income	4. Total Gross Household Income	5. Perceived Stress
1.	-	.051	-.202**	-.273**	.205**
2.		-	.329**	.175**	.219**
3.			-	.563**	-.046
4.				-	-.098*
5.					-

Note. ** indicates correlation is significant at .01, * indicates correlation is significant at .05.

Table 4

Multiple Regression of Salary, Evaluation Criteria, and Level of Education on Coaches Perceived Stress

Variables	Perceived Stress (DV)	Social Support	Coaching Salary	Agreed Evaluation Criteria	Level of Education	B	β	<i>p</i> -value
Social Support	-.28					-2.746	-.221	.000
Coaching Salary	.23	-.06				.211	.186	.000
Agreed Evaluation Criteria	.18	-.10	.06			1.910	.141	.003
Level of Education	-.01	-.04	.11	.06		-.256	-.055	.238
>40 hours of work	.24	-.21	.22	.10	.08	2.806	.138	.005
							$R^2 = .162^a$	
							Adjusted $R^2 = .152$	
							$R = .403$	

Note. ^aUnique variability = .12; shared variability = .04.