Design and preliminary validation of the Barriers to Sports Coaching Questionnaire for Women in South Africa: An application of the ecological model

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Abstract

The purpose of this study was to develop and preliminarily validate a questionnaire to examine barriers to coaching that are encountered by women sports coaches in South Africa. Two series of studies were conducted to assess content and face validity, factorial structure, and reliability of a new questionnaire. In study one, 40 items were developed based on LaVoi and Dutove's ecological model of barriers and supports for female coaches and a thorough literature review. A panel of experts was employed to explore content validity and suitability of the provisional items. In study two, an initial 35-item questionnaire (the Barriers to Sports Coaching Questionnaire for Women; BSCQW) was administered to 152 women sports coaches who were working in South Africa. Principal component analysis was used to reduce items and determine factorial structure of the questionnaire. Analyses resulted in a 32-item BSCQW, which consists of intrapersonal, interpersonal, organisational, and socio-cultural barriers to coaching. The most proximal barriers were organisational (M=2.71, SD=1.24) and interpersonal (M=2.22, SD=1.04). The findings indicate that the overall internal consistency of the BSCQW was .81, demonstrating that the questionnaire was reliable. Thus, the BSCQW is a valid tool to assess barriers experienced by women sports coaches in South Africa. Further rigorous psychometric assessments are warranted.

Keywords: coaching, equity, gender, psychometrics, sports

Introduction

Sports that are currently played in South Africa date back to the colonial and apartheid eras. During these periods, sports were managed by a repressive system that demonstrated racial division and gender inequality (Kubayi, 2018; Surujlal, 2004). Women were segregated from men in all sports (Kubayi, Coopoo, & Morris-Eyton, 2017), which marginalised and constrained them for many years (LaVoi & Dutove, 2012). Women coaches often had limited access to certain parts of society in South Africa, were not allowed to participate in sports, and were denied opportunities for their own development in the sports coaching profession (Allison, 2000; Kubayi et al., 2017; LaVoi & Dutove, 2012). However, after the dismantling of apartheid, sport became a powerful tool during efforts to persuade the South African government to move away from a discriminatory form of social order (Segwaba, Vardhan, & Duffy, 2013). While there are currently no sport participation statistics for South Africa, anecdotal and research evidence suggests that the number of women participating in sport has subsequently increased dramatically at regional, provincial, and national levels (Singh & Naidoo, 2017).

Despite the female participation rate in sports increasing in South Africa, sports coaching as a profession is still dominated by men (Kubayi et al., 2017). In South Africa, only five in 29 coaches were women as of 2015 (Surujlal & Vyas-Doorgapersad, 2015) and most are coaching at low level (e.g., recreational; Kubayi et al., 2017). Coaching certification is not currently compulsory for coaches at any level of competition in South Africa (Kubayi, 2016) but this is likely to change following the South African Sports Confederation and Olympic Committee's launch of the South African coaching pathway in November 2019. Once the new pathway is confirmed and rolled out, certification and continuous professional development opportunities should be more widely available. Although there is no data on the number, type, or qualifications of coaches in South Africa at the current time, many coaches

are coaching at the community level as volunteers (Segwaba et al., 2013).

Globally, women coaches represent a minority who often feel excluded and undervalued (e.g., Norman & Rankin-Wright, 2016), are more likely to be placed in marginalised positions (Hovden & Tionndal, 2017; Whisenant et al., 2002), and typically receive fewer returns for their investments (Cunningham & Sagas 2002; Sagas & Cunningham 2004). This can be attributed to the fact that men occupy the majority of powerful positions in sports at all levels of participation (LaVoi & Dutove, 2012). Kerr and Ali (2012) indicated that a lack of women coaches is particularly undesirable when considering that the number of female athletes is increasing. The discrepancy between the volume of women coaches and athletes leaves female sport participants with limited role models and perpetuates the cycle of male dominance in coaching (Kerr & Ali, 2012). In addition, low involvement of women coaches implies that women athletes are unlikely to continue their sport involvement once they retire from their own athletic career (Kerr & Marshall, 2007; Knoppers, 1987).

A lack of women coaches in positions of power and, thus, limited diversity in the coaching workforce is not only problematic for women themselves but has ramifications for all who are involved in sport (Norman, 2011). Indeed, governing bodies that lack diversity have a significantly decreased pool of high-class coaches from which they can recruit (Norman, 2011) and reduced organisational performance (Cunningham, 2009). In contrast, organisations with diversity at the heart of their culture respect differences, tolerate risk and ambiguity, are future orientated, and have open group membership (e.g., DeSensi, 1995; Doherty & Chelladurai, 1999). Given the vital role that women coaches play in sport, it is essential to better understand the factors that may inhibit their continued engagement with the coaching profession.

Conceptual model

This study is underpinned by the ecological model of barriers and supports (LaVoi & Dutove, 2012). This model was developed with and for women coaches based on Brofenbrenner's (1977, 1979) ecological systems theory. The ecological model relates to intrapersonal, interpersonal, organisational, and socio-cultural barriers (LaVoi & Dutove, 2012) that represent multiple, interwoven levels of influence (i.e., from the most proximal to the most distal to the coach) and how they affect, impede, or prevent women from seeking or remaining in the coaching profession (Burton & LaVoi, 2011). Factors that support (i.e., facilitate) career advancement and retention are also considered. Intrapersonal barriers are suggested to be the most proximal level to the coach and include biological, personal, and psychological factors (e.g., cognition, beliefs, emotions, expertise, values, and personality; LaVoi & Dutove, 2012). Intrapersonal barriers arise within the coaches' minds or self (Robbins, Gilbert, & Clifton, 2015). For instance, a lack of self-efficacy might be perceived as an individual barrier, whereby a woman coach does not believe she is sufficiently competent to coach (LaVoi & Dutove, 2012). Unequal assumptions of competence exist in sports coaching, with men coaches often assumed to be more competent than women counterparts (Kilty, 2006). A woman coach may perceive a need to prove herself as capable, while a man is often accepted based on coaching credentials alone (Kilty, 2006). Researchers (e.g., Demers, 2009; Messner, 2009) have suggested that women may feel more confident and competent to coach following engagement with educational opportunities relating to skill and career development.

Interpersonal barriers represent the second most proximal level of the ecological model and consist of social-relational influences. Interpersonal challenges include a lack of support from a spouse, parent, friend, or significant other, for example (LaVoi & Dutove, 2012). Kamphoff (2010) reported that women identified a lack of support as critical in their decision to leave coaching. The third level of the model (i.e., second most distal from the

coach) is organisational barriers, which are defined as job descriptions, professional practices, organisational policies, use of space, and opportunities (LaVoi & Dutove, 2012). This level includes travel demands experienced by coaches for recruiting players and attending competitions, which may interfere with family responsibilities and lead to some women having to choose between coaching and parenting (LaVoi & Dutove, 2012). For women coaches with children, the working schedule may conflict with family time because childcare is not typically provided during training, travel, or competition. Indeed, family responsibilities are often viewed by sport organisations as outside of their control and interests (Kerr & Marshall, 2007).

Socio-cultural barriers are the fourth and most distal aspect of the ecological model. These barriers encompass cultural systems and norms that indirectly influence women coaches. For example, the roles of women in the South African context is mainly perceived as that of carrying out domestic chores (Kubayi et al., 2017). Gender stereotypes associated with traditional femininity and leadership may affect how a woman coach behaves within the coaching role (e.g., conforming to feminine norms while simultaneously exhibiting masculine behaviours to demonstrate competence: LaVoi, Buysse, Maxwell, & Kane, 2007; LaVoi & Dutove, 2012). Regardless of public policy on gender equity, stereotypes are ever-present constraints that hamper women's progress to senior coaching positions (e.g., by supporting the patriarchal control of coaching and oppressing diversity: Norman, 2011). Further, Davis-Delano, Pollock, and Vose (2009) suggested that women in sports are often perceived to be lesbians and inferior to men. This type of discrimination and stereotypical thinking allows sexist assumptions to continue and contributes to the subordination of women coaches by upholding masculine hegemony (e.g., Messner & Bozada-Deas, 2009; Surujlal & Vyas-Doorgapersad, 2015).

Notwithstanding various studies on barriers encountered by women coaches in

countries such as Canada (e.g., Demers, 2004), the United Kingdom (e.g., Norman, 2008), and the United States (e.g., Kamphoff & Gill, 2008; LaVoi, 2013), there is limited information in this important area of research within a South African context. The few available peer-reviewed studies (Kubayi et al., 2017; Surujlal & Vyas-Doorgapersad, 2015) that have investigated barriers experienced by women coaches in South Africa have certain limitations. For instance, Kubayi et al. (2017) used a measurement instrument that was developed in Western society and was not specifically applicable to the South African context. Indeed, women working in developing countries (e.g., South Africa) are likely to experience unique challenges that may not be apparent in developed countries that more openly encourage and support sports coaching as a viable profession for women (Kubayi et al., 2017). In the other relevant study, Surujlal and Vyas-Doorgapersad (2015) identified just four themes relating to barriers (career path opportunities, gender discrimination, organisational support, and stereotyping), which is not likely to offer a comprehensive reflection of constraints encountered by women sports coaches in South Africa. In addition to these shortcomings, researchers are yet to develop and validate a scale to quantitatively assess barriers experienced by women coaches in South Africa.

The development of new measurement tools is particularly important if we are to gain a better understanding of the factors that influence women's interest in the coaching profession. In turn, such measures will act as a crucial step toward addressing the gender gap in coaching (Moran-Miller & Flores, 2011). LaVoi (2013) reiterated that if societal stereotypes about gender and leadership that privilege men coaches are to change, male and female athletes need to be coached by women. Exposure to women role models and leaders in a context that matters to young people may help to change values and beliefs about women in positions of power and leadership. Research that contributes to a better understanding of women's barriers to coaching is essential if we are to make the profession more attractive to

women and reduce labour turnover (Kubayi et al., 2017). The results of this study may help women coaches to reflect on the barriers that can be experienced while also helping sports organisations to identify the intrapersonal, interpersonal, organisational, and socio-cultural experiences that affect their daily lives. This study may also assist decision-makers to develop support opportunities for women coaches and, in doing so, strive for a more positive climate of respect, tolerance, and inclusiveness in coaching (LaVoi & Dutove, 2012). A better understanding of barriers in sports coaching may also inform policy regarding the training, recruitment, and retention of women coaches (Reade, Rodgers, & Norman, 2009). The current work aimed to systematically develop and rigorously assess a Barriers to Sports Coaching Questionnaire for Women (BSCQW) via two independent but related studies. The purpose of study one was to assess the content and face validity of the BSCQW. Study two aimed to determine the factorial composition of the BSCQW using principal component analysis (PCA).

Study 1

Study one aimed to develop an initial pool of items that related to the barriers encountered by South African women sports coaches, and to assess their content and face validity. These types of validity are essential in the development of an instrument because they evaluate whether items are relevant to and representative of the target construct (Haynes, Richard, & Kubany, 1995).

Method

Participants

To explore content validity of the items, an expert panel of eight individuals (five women and three men) was recruited. This panel consisted of seven full- or part-time sports coaches (M_{age}=36.29, *SD*=14.82; $M_{experience}$=13.14, *SD*=12.59) and one academic who developed the ecological model that underpins this research. The coaches were working at

either regional, national, or international level and were involved in sports such as soccer, track and field, triathlon, tennis, and race walking.

Measure

The BSCQW was underpinned by LaVoi and Dutove's (2012) ecological model. To help develop an initial item pool, a review of literature relating to the barriers experienced by women coaches was conducted (see e.g., Kamphoff & Gill, 2008; Kubayi et al., 2017; Kubayi et al., 2018; LaVoi & Dutove, 2012; Surujlal & Vyas-Doorgapersad, 2015). During this review, literature was searched for, reviewed, and aligned to one of the four levels of the ecological model. Seventy items were generated and subsequently reviewed by the first three named authors to assess overlap and duplication. To ensure rigour and agreement when sifting the items, there were regular discussions among the three authors to reach a consensus on the inclusion and suitability of the items. Items that were too lengthy, too vague, or lacked relevance for the target population (i.e., women coaches) were removed (DeVellis, 2011). After completion of the sifting process, 40 items were included in the preliminary BSCQW. Each item was scored on a five-point Likert-type scale ranging from one (*strongly disagree*) to five (*strongly agree*).

Data collection

Permission to conduct the study was received from the lead author's university ethics committee. The preliminary 40-item questionnaire was sent electronically to each member of the expert panel who was asked to review the items. The aim of the experts' review was threefold: (1) to determine item clarity, (2) to assess whether the items reflected the subscales of the ecological model that they were nested within (i.e., their relevance and representativeness), and (3) to recommend additional items. Clarity can be defined as how clearly the items are worded and relevance refers to the extent to which each item relates to specific aspects of the construct being measured. Representativeness can be described as how

completely the items (as a whole) encompass the construct (Artino, La Rochelle, Dezee, & Gehlbach, 2004).

Based on feedback from the experts, six items were deleted (e.g., 'Coach skills/techniques inadequate for athletes'), one new item was added ('I travel more than I would like to'), and nine items were rephrased (e.g., 'Working schedule' was modified to 'My working schedules are inflexible'). Eight items were reversed (e.g., 'I do not have access to coaching mentors' was reversed to 'I have access to coaching mentors'). The items were reverse-coded to minimise response bias (i.e., tendency to respond to items without paying sufficient attention to their content, Suárez-Alvarez, Pedrosa, Lozano, García-Cueto, & Cuesta, 2018). At the end of study one, the BSCQW consisted of 35 items that would be examined for factor structure and reliability in study two.

Study 2

The aims of study two were to examine the factorial structure of the 35-item BSCQW by means of PCA and to assess the reliability of the questionnaire.

Method

Participants

The sample consisted of 152 South African women sports coaches, aged between 18 and 54 years (M_{age}=30.38, *SD*=9.74), who volunteered to participate. The coaching experience of the participants ranged from 1 to 31 years ($M_{experience}$=5.69, *SD*=6.65). The coaches represented the following sports: netball (n = 93), athletics (n = 27), soccer (n = 15), hockey (n = 13), and others (n = 4).

Data collection

To begin the process of coach recruitment, we contacted coach educators via sports federations or, where these individuals were known to the research team, we made contact directly by phone. Educators were asked to disseminate full details of the study via a

participant information sheet to women coaches and were asked not to encourage or discourage participation. Participants who contacted the research team to show an interest in taking part in the study were then approached by the principal investigator and fieldworkers who were trained to administer the questionnaire. An informed consent form and the BSCQW were distributed to the participants in two ways: face-to-face using hard copies or electronically via an email. Each participant was required to sign a consent form which reiterated the purpose of the study and the voluntary nature of participation. The participants were informed via the consent form and during discussions with the researchers that their responses would remain anonymous and that they could withdraw from the study at any time without prejudice. The participants completed the questionnaire independently, which took between eight and 12 minutes.

Data analysis

Descriptive statistics (means and standard deviations) were first used to explore the data. Prior to conducting PCA, the data were screened for missing values and were cleansed. No variable in the BSCQW had >5% of missing data so any data not present were assumed to be missing at random. PCA was used to refine and reduce the number of items and form a smaller number of coherent subscales (Pallant, 2011). Criteria for extraction for PCA were as follows: (1) acceptable Kaiser-Meyer-Olkin (KMO) measure of sampling and Bartlett's tests for sampling adequacy and sphericity, (2) a minimum of 5% explained variance per component, (3) eigenvalues greater than 1.0 to indicate that a component explained more variance than any single item, and (4) factor loadings of ≥.30 (Kline, 1994; Tabachnick & Fidell, 1996). Cronbach's alpha coefficients were used to assess the internal consistency and reliability of the BSCQW. All statistical analyses were conducted using a Statistical Package for Social Sciences (SPSS, version 25).

Results

PCA and descriptive statistics

The 35 items of the BSCQW were subjected to PCA using direct oblimin oblique rotation. A four-component solution accounted for a total of 37.19% of the overall variance. Three items were removed from the pattern matrix because the component loadings were <.30. PCA with an oblique rotation was then performed on the remaining 32 items of the BSCQW. The KMO value was .71, which is higher than the acceptable value of .60 recommended by Kaiser (1974). Bartlett's Test of Sphericity (Bartlett, 1954) was significant (x^2 = 1396.81; df = 496; p < 0.000), which supported the factorability of the correlation matrix (Pallant, 2011). The revised four-component structure explained a total of 39.72% of overall variance. Table 1 shows descriptive statistics, item loadings, eigenvalues, and percentage variance explained by each component.

[Insert Table 1 here]

The first component, *organisational barriers*, accounted for 16.39% of the variance and consisted of 11 items. The most important organisational barriers encountered by women coaches were "I am not well paid for my coaching" (*M*=3.20, *SD*=1.45), "I work longer hours than I would like to" (*M*=3.09, *SD*=1.31), and "I have too many administrative duties" (*M*=3.07, *SD*=1.36). The second component, labelled *socio-cultural barriers*, explained 10.09% of variance and contained eight items. The most proximal socio-cultural barrier identified by women coaches was "I am given low status" (*M*=2.34, *SD*=1.15).

Five items loaded onto the third component, *intrapersonal barriers*, which accounted for 7.56% of the variance. "I lack coaching skills to be a successful coach" (*M*=2.58, *SD*=1.12) was identified as the most important intrapersonal barrier among women coaches. The last component, *interpersonal barriers*, explained 5.68% of the variance and included eight items. The following interpersonal barriers were reported as the most important by women coaches: "I have difficulties dealing with spectators/parents" (*M*=2.47, *SD*=1.17),

"Coaching interferes with my social life" (*M*=2.41, *SD*=1.26), and "Coaching conflicts with my family commitments" (*M*=2.34, *SD*=1.34). Overall, the most proximal barriers were *organisational* (*M*=2.71, *SD*=1.24) and *interpersonal* (*M*=2.22, *SD*=1.04).

Reliability testing

Table 2 presents the Cronbach's alpha coefficients of the BSCQW. Despite three subscales (intrapersonal, interpersonal, and organisational barriers) falling below the recommended value of .70 as proposed by Nunnally and Bernstein (1994), the values are acceptable for exploratory research (Hair et al., 2017). The overall internal consistency of the questionnaire was .81, demonstrating good reliability (Tavakol & Dennick, 2013).

[Insert Table 2 here]

Discussion

This study aimed to develop and preliminarily validate a questionnaire to assess barriers experienced by South African women sports coaches. The questionnaire was systematically and rigorously developed using a comprehensive review of literature, expert panel review to explore content and face validity, PCA, and Cronbach's alpha coefficients to assess internal consistency and reliability. The PCA extracted a four-component factorial structure of organisational, socio-cultural, intrapersonal, and interpersonal barriers. These four components consisted of 32 items and formed the provisional BSCQW. The preliminary analyses show that the BSCQW is a sound psychometric measure of barriers to sports coaching within the South African context. Indeed, the overall internal consistency of the BSCQW exceeded the recommended alpha value of .70 (Nunnally & Bernstein, 1994), suggesting that the questionnaire is a suitable instrument to assess barriers among South African women sports coaches.

The first component of the BSCQW, *organisational barriers*, includes eight items that relate to the organisational policies, job descriptions, and professional practices (LaVoi

& Dutove, 2012). The most important organisational barrier reported by the women coaches in the current study related to poor remuneration for their coaching work. This finding is consistent with that of Surujlal (2006) who indicated that women coaches are paid considerably less than their male counterparts despite the fact that they share identical credentials. Women coaches have also reported that they work longer hours than they would like to. In a study of U.S. women coaches, Kamphoff (2010) reported coaching positions as "nonstop . . . 24-7 job(s)" with no vacations, which disrupted coaches' chances of living a "normal life" (p. 367). Another important organisational barrier was that women coaches performed too many administrative duties, which interfered with their coaching roles. This finding lends support to Kamphoff (2010) who reported that women coaches had to accept additional responsibilities (e.g., administration) within the athletic department to increase their salaries. Consequently, women coaches alluded to supportive administration as key to coaching success (Kamphoff, 2010).

The second component, *socio-cultural barriers*, comprises eight items and refers to cultural systems, gender ideology, and norms that influence women coaches (LaVoi & Dutove, 2012). The highest mean score for socio-cultural barriers showed that giving women coaches low status (e.g., coaching at a lower competitive level) was an important barrier to coaching. Other empirical evidence has demonstrated that women coaches often encounter occupational segregation by being assigned to less visible roles (e.g., assistant coach versus head coach), less competitive recreational levels, less prestigious sports, and to younger athletes (LaVoi, 2009; LaVoi & Dutove, 2012; Messner, 2009). However, it should be noted that *socio-cultural barriers* in this study were perceived as those most distal to the coaches. This means that these barriers were the least important of the four components that we assessed. This finding highlights that discriminatory gender ideologies may be changing and that, for those who took part in this study, inclusion of women coaches is increasingly valued

(LaVoi & Dutove, 2012; Norman, 2011).

The third component, *intrapersonal barriers*, contains five items and relates to personal factors (e.g., perceived competence, ability to manage stress) that woman coaches may experience. Women coaches who contributed to this study indicated that they believed they lacked the coaching skills that are required to be successful coaches. Previous studies have demonstrated that women coaches who believed they lacked coaching or management skills, experience, and knowledge were not competent to coach (Demers, 2009; LaVoi & Dutove, 2012; Messner, 2009). Self-perceptions relating to confidence, competence, and self-efficacy among women sports coaches act as constraints to their progression (Kilty, 2006; LaVoi & Becker, 2007; LaVoi & Dutove, 2012). Therefore, women coaches should be equipped with necessary knowledge and skills by means of formal, informal, and non-formal education to optimise their coaching confidence (Demers, 2009; LaVoi & Dutove, 2012; Messner, 2009).

The last component, *interpersonal barriers*, includes eight items that relate to a perceived lack of support from social agents or negative interactions with significant others (LaVoi & Dutove, 2012). The most important interpersonal barrier that was identified by women coaches was encountering difficulties when dealing with spectators and or parents. Spectators and parents have been reported to interfere with coaching duties (e.g., by trying to influence who should and should not be selected to compete; Harwood, Thrower, Slater, Didymus, & Frearson, 2019; Kubayi et al., 2017) and the current study suggests that this interference is a barrier that may have important ramifications for coaches' engagement with and continuation in the profession. Further, the women coaches who we worked with acknowledged that their time commitment to coaching interfered with their social life and family obligations. This is important given the commonplace culture in South Africa whereby some women still shoulder the majority of family responsibilities (e.g., cleaning, cooking,

washing, childcare; Kubayi, Nongogo, & Amusa, 2014). Indeed, Kerr and Marshall (2007) argued that although there seems to be a shift toward men assuming more domestic responsibilities globally, including staying at home to raise children, the gendered division of labour is still prevalent. Our findings relating to interpersonal barriers have important consequences for coaching in South Africa. The profession needs to become more forward thinking to accommodate the high expectations of women in both their coaching and personal contexts until we see a seismic shift in cultural gender equality.

Conceptual implications

The ecological model that underpinned this study allowed us to understand some of the barriers faced by women coaches from those at the most proximal to those at the most distal levels from the coach (Burton & LaVoi, 2011; LaVoi & Dutove, 2012). While the ecological model postulates that intrapersonal barriers were the most proximal constraints experienced by women coaches, the present study suggests that organisational barriers are perceived to be at the most proximal level among South African women sports coaches. This finding demonstrates that South African women coaches experience important barriers relating to the sport club(s) and/or organisation(s) within which they work. A possible reason for this is that women coaches have minimal power and authority to make their own decisions (Kubayi et al., 2017). Men play an important role in affecting the progress of women in coaching because they hold most of the positions of power, decision-making, and resource allocation. To compound this notion, it has been suggested that men have a lack of awareness of their power and the power structures within workplace organisations (Kerr & Marshall, 2007). Based on the results of the current study, the ecological model developed by LaVoi and Dutove (2012) should be refined for South African women sports coaches who have a different structure of barriers to that identified in the Western world.

Strengths, limitations, and future research

The results of this study should be interpreted in light of some potential limitations. First, the sample size was small and the results cannot be generalised to the wider South African coaching population. Second, the women coaches who volunteered in this study were unevenly distributed across sports, and most of them worked in female-dominated sports (e.g., hockey, netball). Our sample does, however, reflect the nature of sports coaching in South Africa where women are underrepresented, usually work with female, rather than male athletes, and often occupy lower level coaching positions than their qualifications and experience suggest they should. Our study provides a new tool for understanding some of the reasons why women in South Africa may choose to coach, and offers insight to some of the barriers that may prevent them from doing so. Once these reasons are more fully understood, interventions can be developed to inspire and empower women to consider a career in coaching and, thus, help neutralise the profession's demographic biases. The BSCQW may be useful for moving the existing South African coaching system toward greater equality, helping to highlight the need for improved social networks for women coaches, establishing a more supportive atmosphere, and changing societal norms about the coaching profession. Efforts in these areas may increase the number of women coaches in South Africa and, in doing so, create role models for girls and women (Kubayi et al., 2017; LaVoi & Dutove's, 2012). The presence of women role models will contribute to girls and women valuing their sport abilities more strongly (Lockwood, 2006) and realising their sport related potential (Hums, Bower, & Grappendorf, 2007). Further research should include more of a focus on women coaches in male-dominated sports such as cricket, rugby, and soccer to provide more varied insight to the barriers encountered by women coaches. Future studies should also further interrogate the BSCQW with larger samples of women coaches to assess concurrent validity, factor structure, and test-retest reliability. It would also be interesting to develop a measure of barriers experienced by men sports coaches in South Africa to facilitate

419 explorations of gender-based similarities and differences.

420 **Conclusion**

421 The purpose of this study was to systematically and rigorously develop, and
422 preliminarily validate, a measure to assess barriers encountered by women sports coaches in
423 South Africa. The BSCQW is a valid measure of such barriers and can, therefore, be used by
424 researchers and practitioners alike. The most important barriers to coaching as encountered
425 by women coaches were low payment, working longer hours, performing too many
426 administrative duties, having low coaching status, perceiving a lack of coaching skills that are
427 needed to be successful coach, experiencing difficulties in dealing with spectators and or
428 parents, and coaching interfering with social and family commitments. It is recommended
429 that sports clubs and organisations increase remuneration for women coaches to bolster
430 perceptions of being valued and rewarded appropriately. Salary increases may also encourage
431 more women to the profession, particularly if policies relating to working hours and
432 conditions are introduced to facilitate more effective work-life balance and, in doing so, help
433 coaches to manage their coaching and personal commitments.

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600 Table 1

601 *Item loadings, eigenvalues, percentages of variance, and descriptive statistics for the BSCQW.*

	Item loading	*M*	*SD*
Organisational barriers (Eigenvalue = 5.25, percentage of variance = 16.39)		2.71	1.24
I work longer hours than I would like to	.76	3.09	1.31
I have too many administrative duties	.75	3.07	1.36
I dislike having to coach during evenings and weekends	.63	2.73	1.36
I travel more than I would like to	.61	2.59	1.18
I am not well paid for my coaching	.61	3.20	1.45
My job is secure	.50	2.43	1.17
I have opportunities to complete professional qualifications	.49	2.36	1.14
I am concerned that my financial incentives are dependent	.44	2.03	1.06
Other people interfere with my coaching decisions	.37	2.50	1.20
I have a lack of opportunity for promotion	.31	2.78	1.17
My working schedules are inflexible	.30	3.03	1.26
Socio-cultural barriers (Eigenvalue = 3.23, percentage of variance = 10.09)		1.90	1.03
I am perceived as unfeminine	.77	1.65	0.88
I am discriminated against for being a women coach	.69	1.76	1.08
People perceive me as a lesbian because of my coaching	.61	1.35	0.74
I am considered to be unattractive	.59	1.67	0.89
I am given low status (e.g., coaching at a lower competitive	.54	2.34	1.15
I do not have women role models to look up to	.49	1.88	1.18
I am treated fairly	.45	2.28	1.20
I am accepted by male coaches	.41	2.25	1.11
Intrapersonal barriers (Eigenvalue = 2.42, percentage of variance = 7.56)		2.22	1.04
I do not feel competent in my coaching role	.79	2.25	1.10
I lack coaching skills to be a successful coach	.78	2.58	1.12
I am able to handle defeat	.65	2.16	1.04
I am able to manage my own experiences of stress during	.63	2.18	0.93
I find it difficult to motivate my athletes	.61	1.91	0.99
Interpersonal barriers (Eigenvalue = 1.82, percentage of variance = 5.68)		2.07	1.07
Coaching conflicts with my family commitments	.69	2.34	1.34
Coaching interferes with my social life	.67	2.41	1.26
I have access to coaching mentors	.53	2.11	1.12
I have difficulties dealing with spectators/parents	.51	2.47	1.17
I am able to help athletes to manage stress of competition	.49	2.20	0.87
I have a lack of support from my close family members	.45	1.67	0.96
My athletes prefer working with male coaches	.39	1.60	0.94
I have personality conflicts with my athletes	.35	1.75	0.93

602

603 Table 2

604 *Reliability analyses of BSCQW.*
605

Subscale	Number of items	Cronbach's alpha
Intrapersonal barriers	05	.62
Interpersonal barriers	08	.64
Organisational barriers	11	.66
Socio-cultural barriers	08	.74
Overall	32	.81

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