

**DRAFT**

## **The Sport Wellbeing Survey: A Wellbeing Screening Survey for Athletes, Teams and Sporting Organisations**

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Wellbeing in athletes has been steadily growing as topic of interest in sport over the past ten years, however, there is much debate regarding the definition of wellbeing and in-turn, how to assess this construct in athletes and sporting populations (Lundqvist, 2011; Schaal et al., (2011). Simultaneously, there has been development over the past 3-4 decades regarding what should be prioritised in assessing athletes, both individually and universally in teams. This paper presents the Sport Wellbeing Survey and its initial use with Australian athletes. The survey aims to provide an option to assess wellbeing in athletes encompassing symptoms related to mental health, engagement and a range of factors related to positive psychology within one instrument.

The challenges facing modern day elite, professional or aspiring athletes are varied and multi-faceted and can have a significant impact on either personal, performance or both of these factors. Such challenges have been well described and may include burnout, injury, burdensome training load, failing to make selection, inability to balance family and sporting commitments, worry about poor performance, criticism by coaches, public scrutiny, maintaining physical or mental health and job security (Noblet & Gifford, 2002; Noblet, Rodwell, & McWilliams, 2003; Hanton, Fletcher, & Guy, 2005; Hughes & Leavey, 2012; Hammond 2005; McKay, Niven, Lavalee, & White, 2008). In addition, stress from such challenges may influence both the wellbeing (DiBartolo & Shaffer, 2002) and the performance (Humphrey, Yow, & Bowden, 2000) of athletes.

### **Mental health in athletes**

With the recognition of the stressors summarised above, Hammond et al. (2005) describe a growing interest in the mental health of athletes. They identify that the majority of

evidence examining elite athletes indicates that depression occurs at similar or increased frequency to the general population. Similarly, in a population of elite Australian athletes, Gulliver et al. (2012) found that mental health concerns were similar to that observed in the community. The authors also draw attention to the relevance of data showing that the highest prevalence rate (approximately 25%) of mental disorders in the community occur in the 16-34 year old category, which overlaps with the age of many elite athletes.

Raglin, (2001) emphasised the importance and relevance of the mental health model for athletes. One premise of the mental health model is that an inverse relationship exists between psychopathology and sport performance (Morgan, Brown, Raglin, O'Connor, & Ellickson, 1987). In discussing psychological factors in sport performance, Raglin (2001) concluded that the mental health model indicates it is equally important to focus on psychological health in terms of performance and the general welfare of an athlete.

The research and relevance of mental health and psychopathology in athletes has encouraged professionals to utilise specific unidimensional psychological screening instruments to assess such constructs, both within individuals and at times in teams or broader groups, when access is available. Examples include the Beck Depression Inventory (Beck, Epstein, Brown, & Steer, 1996), the Depression Anxiety Stress Scale (Lovibond & Lovibond, 1995), and the SCOFF Questionnaire (Morgan, Reid, & Lacey, 1999). There are however, a number of concerns with specific targeted mental health instruments being considered or used universally with sporting groups. The foremost of these concerns is that the information gleaned is very narrow and while it provides information on all participants that complete the screening, the tools only identify a small number of athletes that may require follow-up. In addition, such targeted instrument selection can often be based on professional familiarity, orientation and experience with such tools and there are not necessarily any best practice instruments of choice. It is also likely that there still exists skepticism amongst administrators, coaches and athletes to universally screen for such targeted psychological factors. In addition, considering the typically busy schedule of athletes and the demand to complete many varied direct or in-direct performance or wellbeing oriented forms or surveys, such specific assessments are often not prioritised for universal assessment. The information collected does not readily provide opportunities for Sport Psychologists and other professionals working with teams or groups to follow-up and

develop educational workshop or individual consulting opportunities for development or education purposes.

### **Screening instruments**

Historically, assessment instruments for athletes in sport have evolved from a preference for personality oriented tools, to performance specific tools. Examples of personality assessment tools include The Eysenck Personality Inventory (Eysenck & Eysenck, 1975), 15 Factor Questionnaire and 16 Personality Factor Questionnaire (Cattell, Eber, & Tatsuoaka, 1970). Examples of performance focused tools include Test of Performance Strategies (Hardy, Roberts, Thomas, & Murphy, 2010); Psychological Skills Inventory for Sport (Mahoney, Gabriel, & Perkins, 1987), and The Athletic Coping Skills Inventory (Smith, Schutz, Smoll, & Ptacek, 1995) and the Survey of Mood States (McNair, 1971).

The suitability of personality measures in sport psychology practice has been questioned due to their clinical focus, lack of athlete norms, narrow focus or lack of applicability back to the individual or group being assessed (Beedie, Lane, & Terry, 2001). While such instruments have served a purpose in specific circumstances, one important concern is that they are unidimensional and like assessments specifically measuring mental health, lend themselves to target testing, rather than universal testing of athletes in squads or teams. Therefore, for professionals working in sport, there exist significant challenges in selecting an instrument or instruments to use for broad and universal assessment purposes in sports. In addition to the challenge of selecting an appropriate instrument for such purposes, other challenges when considering a broad screening tool in sport include limited resources such as time, access to appropriate professionals and cost. Further challenges include convincing coaches and sports administrators of the relevance and usefulness of conducting assessments with their athletes, as well as accessibility to athletes.

### **Wellbeing in athletes**

While the mental health of athletes is now an important issue, the “wellbeing” of athletes has also emerged as a topic of discussion more recently (Lundqvist, 2011; Schaal et al., (2011). Specifically, Schaal et al., (2011) noted that with the development of applied sport psychology there has been increased attention on the psychological “wellbeing” of elite athletes. Such discussion has, however, highlighted a clear lack of consistency regarding

what wellbeing in athletes is (Lundqvist, 2011; Lundqvist & Sandin, 2014). In an attempt to bring clarity to wellbeing in competitive sports, Lindqvist (2011) recognises that researchers have found the construct of wellbeing both multifaceted and complex and that the majority of studies have either failed to define wellbeing or used a variety of labels to define the construct. In her comprehensive review of the topic, Lindqvist (2011) recognises that wellbeing extends beyond mental health, has been influenced by the positive psychology movement and that there is a notable lack of measurements for assessing competitive athlete's wellbeing.

With this growing interest in the wellbeing of athletes, there remains no unanimity on the definition of athlete "wellbeing", or on any survey or tool that is considered best practice, or even recommended to assess such a domain. Certainly, at this stage, there is a lack of research on the prevalence of wellbeing in elite athletes. Regular universal screening within this population is scarce and predominately relies on targeted clinical assessments, as discussed earlier. Therefore, it is plausible that mental health should be one facet of overall wellbeing in athletes and that screening and early detection is especially important in light of reports suggesting that athletes avoid mental health services, even when the symptoms become acute (Storch, Storch, Killiany, & Roberti, 2005).

It follows that help-seeking in athletes is an important skill (Gulliver, Griffiths, Christensen, 2012). Indeed Gulliver et al (2012) identified that the top three barriers to help-seeking were lack of knowledge about mental health, not knowing when to seek help and worries about what others think. These factors are very concerning, particularly when considering preventative interventions may allow for improved mental health outcomes (World Health Organisation [WHO], 2004). In contrast, Gulliver et al (2012) recommended that programs to educate athletes could help reduce stigma and increase help-seeking behaviour. Certainly conducting universal screening and providing feedback on such data may be one strategy to achieve this outcome.

In light of the above discussion and demands of modern sport on athletes, it is suggested that there is a requirement for a wellbeing screening instrument for athletes that is multi-dimensional, able to be used as a universal screening tool and incorporate sub-categories on mental health and positive psychology factors. Further, it is suggested that a combination of such factors may be considered as overall "wellbeing". The factors selected for such a construct included mood, resilience, engagement, communication, relaxation and

positivity. An outline of each of these six sub-categories is provided below, accompanied with reasons for selecting each of the sub-categories.

### ***Sport Wellbeing Survey – 6 subcategory descriptions***

*Mood.* Mood includes depressive and anxiety symptoms that are potential precursors for future mental health problems. It is paramount that sport organisations are committed to screening athletes in the area of mood. Such information allows for early identification and privative mental health programs. Additionally, there is a strong relationship between mood and sporting achievement (Beedie, Terry, & Lane, 2000; Hanin, 2000). Positive mood, in particular, has been linked to a range of performance-related behaviours, including greater helping behaviour, more efficient decision making, and greater cooperation (Totterdell, 2000). In team sports, mood is important because one athlete's mood can also impact on the rest of the team (Totterdell).

Mood was selected as a sub-category, due to the importance that has been recognised on maintaining mental health of athletes. In addition, integrating such a sub-category into a larger scale may enable athletes and coaches to accept and be more open to mental health as an important concept.

*Resilience.* Resilience has received a lot of attention in research, particularly sport psychology (Richardson, 2002). Resilience represents athlete's successful adaptation in the face of adversity such as injury, slumps, losses, or life factors (Masten et al., 1999). Resilient athletes can experience growth and improvement from adversities, through increasing effort, learning and persisting on tasks (Galli & Vealey, 2008). Resilience training techniques for elite athletes are becoming increasingly popular (Schinke & Jerome, 2002; Schinke, Peterson, Couture, 2004). This sub-category measures an athlete's capacity to bounce back, value effort, and stay determined.

Resilience was selected as a sub-category due to the perceived importance it has in sports, as well as being a way of measuring how athletes may be skilled at dealing with the many challenges that inevitably confront sport-people, both personally and specifically with performance.

*Sport Engagement.* Coaches and athletes agree that sport engagement and motivation is one of the key factors to facilitate not only performance, but also positive experience within the sport area (Vellerand, 2004). Engagement encompasses information on relationships with coaches and teammates, effort and enjoyment of training and competition.

Engagement was selected as a sub-category due to the importance of being able to enjoy and stay in a particular sport for long periods of time. Athletes do not typically become successful or elite in short periods of time, and without engagement to sustain longevity and persistence with training and developing competition experience, high performance is unlikely.

*Communication.* This construct has not been identified directly in previous wellbeing instruments. This sub-category measures communication skills including speaking with others, listening and asking for help. There is evidence that the right type of social support for an athlete (teammates, coaches, and family) can buffer against the effects of stress, and positively impact on wellbeing and performance (Rees, Hardy, & Freeman, 2007).

Communication was selected as a sub-category purely on the very nature that it is essential skill when dealing with coaches, team-mates, other athletes and many stake-holders in sport.

*Relaxation.* Evidence suggests that the ability to deal with frustration and remain calm is important for competitive athletes (ref). When an athlete is highly aroused they must be able to employ somatic relaxation, positive self-talk, or another mechanism to lower intensities of emotions and bodily symptoms. Emotional regulation and relaxation has a positive effect on athletic performance. (Robazza, Pellizzari, & Hanin, 2004; Kamata, Tenebaum, & Hanin, 2002).

Relaxation as a sub-category in the Sport Wellbeing Survey is a reflection of both capacity to relax and minimise anger and frustration. Such skills are deemed to be relevant to both mental health and performance.

*Positivity.* Positivity is related to confidence, knowing strengths, and capacity to focus on goals. Researchers have found that under adversity, optimistic athletes are more likely to maintain or improve upon their previous competition efforts than are pessimists (Seligman, 1991; Rettew & Reivich, 1995). Research also suggests that positivity can be practiced and improved with athletes, regardless of what is in their nature (Schnike, 2000).

Finally positivity was selected as a sub-category in relation to positive psychology to reflect confidence, optimism and positivity as these factors are current and relevant to both personal management and performance factors. It was considered that the combination of sub-categories would need to be appealing to athletes, coaches and administrators to maximise their interest and the likelihood of its use.

Therefore, one aim of the current research was to combine these six factors, to construct a “wellbeing” scale and to introduce the scale as an athlete wellbeing screening instrument that may be used either with individual athletes, or universally with teams or squads - the Sport Wellbeing Survey. The secondary aim was to report on the reliability and validity of this instrument in an Australian athletic population.

## **Method**

### *Instrument Development*

A competitive athlete with effective wellbeing may be described as having stable mental health, a capacity to deal with the performance related challenges of their sport and also have a range of positive psychological skills to assist them to both cope and perform in their chosen sport. The development of the Sport Wellbeing Survey was based upon the constructs thought to underlie the above definition of wellbeing in a competitive athlete. Therefore, the sub-categories had to reflect such thoughts. Based on contemporary wellbeing research, sport research and 20 years practice in the sport psychology field, the lead author selected six sub-categories to comprise “wellbeing”. These were: mood, resilience, sport engagement, communication, relaxation and positivity. A description of and reasoning for each of the sub-categories has been provided. The purpose of the instrument was to provide a universal multi-

dimensional measure of wellbeing that could be used universally with squads, teams or broader sports groups, as well as with individuals.

### *Item pool development*

The survey sub-categories and pooled items were developed with input from a small team of Psychologists and people working in sport. The initial survey consisted of 45 questions. Over a period of 3 years and trials with a number of small samples, question modification and data analysis with RMIT University, the survey was developed into its current format of 50 questions.

Athletes reported on 'how you have been feeling overall for the past four weeks'. A 5-point likert scale was used (1 = none of the time; 2 = a little of the time; 3 = some of the time; 4 = most of the time; 5 = all of the time). Participants were encouraged to be open and honest in the responses, with instructions stating that 'there are no right or wrong answers.'

### *Participants*

Data were obtained from 672 athletes ranging from ten to 37 years of age. Athletes were from ten different sports: cycling, track and field, swimming, football (Australian rules, rugby and soccer), motor-sports, tennis and snow-sports. Athletes were from Olympic and professional sports and a broad range of performance standards. Athlete's ranged from full-time school to full-time professionally engaged in their sport. The sample consisted of 241 females and 431 males.

### *Procedure*

Participation was voluntary in each sporting organisation. Athletes were made aware of the purpose of the wellbeing survey prior to administration. The instrument took between 10-15 minutes to complete. Athletes elected to complete the survey online using computer software or as a hard copy. Some athletes completed the survey as individual clients in a Sport Psychology setting, while others completed the survey as part of a universal screening with their sport or team. All data was treated as confidential.

**Table 1** Sample questions featured in the instrument

Sub-category	Question
<b>1: Mood</b>	I am a happy person My mood goes up and down
<b>2: Resilience</b>	I can handle difficulties I think my effort in my sport counts
<b>3: Sport Engagement</b>	I look forward to training I feel supported by my coaches
<b>4: Communication</b>	I am confident with my communication I work well with others in a group or team
<b>5: Relaxation</b>	I lose my temper I can relax my body when tense
<b>6: Positivity</b>	I believe that I can do well in my sport I know my strengths and what I am good at in my sport

## Results

### 1. Inter-correlation matrix

	Positive	Mood	Communication	Relaxation	Resilience	Engagement
Positive Pearson Correlation Sig. (2-tailed) N	1   672					
Mood Pearson Correlation Sig. (2-tailed) N	.647**  .000 672	1   672				
Communication Pearson Correlation Sig. (2-tailed) N	.633**  .000 672	.592**  .000 672	1   672			
Relaxation Pearson Correlation Sig. (2-tailed) N	.520**  .000 671	.701**  .000 671	.465**  .000 671	1   671		

Resilience						
Pearson Correlation	.740**	.572**	.545**	.541**	1	
Sig. (2-tailed)	.000	.000	.000	.000		
N	672	672	672	671	672	
Sport Engagement						
Pearson Correlation	.704**	.555**	.569**	.401**	.605**	1
Sig. (2-tailed)	.000	.000	.000	.000	.000	
N	672	672	672	671	672	672

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## 2. Internal reliability – Cronbach alpha

Subscale	Cronbach alpha	Number of items
Positive	.846	8
Mood	.804	9
Resilience	.791	7
Engagement	.797	9
Communication	.800	9
Relaxation	.835	8
Total scale	.945	50

## 3. Split half reliability

The correlation is between first half of the items [Q1 to Q25] and the second half of the items [Q26 to Q 50]. Correlation is .877, good reliability

#### 4. Test – retest reliability

- Based on a total score for test 1 and test 2 there was a statistical correlation of .715, over a one year duration, which may be considered as good reliability.

Scale	N =	Reliability score	P <
Mood	183	.686	.0001
Resilience	183	.620	.0001
Engagement	183	.587	.0001
Communication	183	.634	.0001
Relax	183	.650	.0001
Positive	183	.680	.0001
Total	183	.715	.0001

#### 5. Concurrent validity – comparison of Mood subscale with K10

Sixty-one athletes completed the K10 in conjunction with the Sport Wellbeing Survey. This was conducted with the 49 item survey prior to the final 50 item survey, however all of the nine mood sub-category items remained the same for the 50 items survey. The K10 is a survey commonly used by general practising doctors in Australia to assess mental health symptoms of depression and anxiety in the general population.

		Mood mean	K10
Mood mean	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	61	
K10	Pearson Correlation	-.540**	1
	Sig. (2-tailed)	.000	
	N	61	61

A highly significant relationship between Mood sub-scale and K10, indicating that this sub-scale is basically measuring the same construct as the K10.

## **DISCUSSION**

The purpose of the present study was to test the psychometric properties of the new Sport Wellbeing Survey for athletes. The results indicate that the tool has very good reliability and may be appropriate for staff working with a range of sports and athletes to use. One of the key proposed advantages of having such a tool is that with the increased interest in athlete wellbeing (Schaal et al., (2011), it provides data on specific relevant topics that encompass wellbeing from both a mental health and positive psychology perspective in one instrument. Furthermore, the capacity to relate data to the topic of wellbeing is likely to be a solution that ensures sports are accountable for monitoring and in turn, providing resources to support athlete wellbeing.

With the emphasis by a range of researchers, including Gulliver et al. (2012), Hammond et al. (2005) and Raglin, (2001), on the relevance of mental health in athletes, it was deemed important to include a sub-category related to assessing symptoms of mental health in the Sport Wellbeing Survey. The sub-category was found to have good correlation with a specific mental health survey used by General Practicing doctors in Australia. This enables the survey to be used as an initial broad screening tool and athletes that are deemed to score low in this sub-category can then be considered by relevant parties for tertiary referral and specific uni-dimensional screening in the areas identified as most required or relevant. Indeed, often in many sports, including professional sports, the determination to refer athletes for specific support to professionals beyond the team is incumbent on subjective assessment by general staff, which can be very challenging, inaccurate or too late to enable early intervention. The other avenue for such referral to occur is from athlete self-referral, which as described by Gulliver et al (2012) has limitations and challenges.

Of 183 athletes that had completed the Sport Wellbeing Survey twice, test-re-test reliability was deemed to be strong, which reflects that the test is stable over time and that changes in results over a period of time are indeed reflective of changes to the wellbeing of the athlete at the time of doing the surveys. This is important and reinforces the necessity to not consider wellbeing screening of athletes as a “one-off”. Indeed, one important feature of conducting universal screening is that it is repeated and conducted over the life-span of an athlete. This allows for sporting organisations and teams to monitor the wellbeing of an athlete in a similar way to monitoring physical characteristics that are common-place and regularly assessed in athletes, such as strength and fitness indicators.

It was noted earlier that universal screening is recommended to be multi-dimensional, rather than uni-dimensionally oriented (Levitt et al., 2007). The Sport Wellbeing Survey's six sub-categories ensure this criterion is well met. While much research has been in relation to students in schools, it is also very relevant to athletes in teams and sporting organisations. Indeed, universal screening allows confirmation of athletes with no concerns or strengths to be recognised, while identifying athletes who may require more specialised or targeted screening.

Another key feature of the Sport Wellbeing Survey is that it includes a range of positive psychology factors such as “resilience”, “engagement” and “positivity” in the six sub-categories. Lindqvist (2011) recognises that this is important and that there is a notable lack of measurements for assessing such features beside mental health in competitive athlete's wellbeing.

The Sport Wellbeing Survey's six sub-categories that combine to form overall wellbeing, overcomes barriers such as time and cost resources as well as coach or administrator skepticism in conducting assessments with whole squads or teams by encompassing all the sub-categories together. Indeed, pooling the six sub-categories may also reduce stigma in athletes in such topics and facilitate help-seeking behaviour, that has been recognised as important (Gulliver et. al., 2012).

In addition, the face-validity of such sub-categories enables the possibility for staff to have coaching style conversations on the sub-category topics and wellbeing in general with athletes, rather than the topics being considered the domain of specific professionals, such as team doctors, psychologists or other external professionals. Such coaching style conversations on these topics enables for the overall, holistic development of an athlete to occur, rather than the uni-dimensional focus on development of athletic prowess. This premise extends beyond individuals in a squad or team environment and by conducting universal screening with a survey such as the Sport Wellbeing Survey, the overall development of a squad becomes relevant, and that in-turn enables individuals to be more likely to flourish as people and team-mates, as well as athletes.

The instrument was also designed to be cost effective and able to be completed in a time efficient manner, with easy to interpret findings. One particular advantage of such a tool

is that it also lends itself to foster athlete engagement with professionals working with individuals, teams and sports by having face validity and relevance that coaches, administrators and athletes would relate to. Including variables such as resilience and communication with a tool that has mood related information reduces the stigma associated with such instruments collecting only mood related factors, as highlighted above.

In conclusion, it has been highlighted that there is a lack of consistency regarding what wellbeing in athletes is, due to the multifaceted and complex nature of wellbeing (Lundqvist, 2011; Lundqvist & Sandin, 2014). The Sport Wellbeing Survey, developed over a period of time by the lead researcher from experience of working with athletes and teams for over 20 years recommends that one possible definition of wellbeing in athletes is the combination of the six sub-categories in the Sport Wellbeing Survey. In addition, based on initial psychometric data in this paper, the Sport Wellbeing Survey is an appropriate survey to be used by staff working with athletes and teams for the purpose of screening and developing wellbeing in athletes and teams.

## **FURTHER RESEARCH**

Considering the current paper is an initial psychometric review of the Sport Wellbeing Survey, there are a number of considerations for further research. Assessing the instrument with a larger sample size is one possibility for further research. Currently there are no norms for the survey. The lead author deemed that the sample size was too small for norms to be created, in addition, it was considered that with the breadth of potential survey use, and the intention for universal nature of the survey use, that the most applicable and appropriate group for survey comparison for any individual athlete is their immediate peers. Indeed, over time, with a significantly larger sample size and further psychometric evaluation, providing norms may become a possibility. Another aspect of further research to be considered may be validation of the instrument either by correlation of sub-categories with specific uni-dimensional instruments in such topics as resilience or possibly culture evaluations with the engagement sub-category. Importantly, a key area for further research would be to use the survey as baseline data, and conduct interventions programs, wither with individuals, small groups or whole squads/teams and conduct post-intervention assessments to determine the impact of any programs.

## **SUMMARY**

The Sport Wellbeing Survey is a recent wellbeing screening tool designed to be used with athletes from the age of 12 upwards, involved in casual or professional sport. Initial research conducted indicates it has good reliability and validity in the mood sub-category. It has also been shown to be reliable over a one year period, indicating that changes in results are reflective of changes in wellbeing of an athlete.

The survey is not a clinical tool, and therefore can be used by appropriate staff within a sporting context or working with athletes. It is worthwhile to note that using such a survey can also lend itself to the possibility for considering tertiary referral for specific follow-up on the mental health of an athlete, or any specific sub-category, as discussed above. An Administrator Guide is available with recommendations for use, interpretation of survey results and follow-up options with athletes. For more information visit [www.sportwellbeing.com.au](http://www.sportwellbeing.com.au)

For any comments or questions please email us at [info@sportwellbeing.com.au](mailto:info@sportwellbeing.com.au)

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