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2 Exploring the Perceived Effectiveness of a Life Skills Development Program for High-  
3 Performance Athletes

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6 Full citation: Hardcastle, S. J., Tye, M., Glassey, R., & Hagger, M. S. (2015). Exploring the  
7 perceived effectiveness of a life skills development program for high-performance athletes.  
8 *Psychology of Sport and Exercise*, 16, 139-149. doi: 10.1016/j.psychsport.2014.10.005

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15 The authors' would like to thank Kate Bobridge and Liane Tooth for their help with  
16 initiating the research, sourcing participants, and commenting on the final report. We would  
17 also like to thank all the participants for giving up their time to participate in interviews and  
18 focus group discussions. This research was supported by funds from the Department of Sport  
19 and Recreation (#DSR0413), Western Australian Government.

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24

1 **Abstract**

2 The purpose of this study was to explore attitudes towards, experiences of, and perceived  
3 effectiveness of a life-skills programme for high-performance young athletes from multiple  
4 perspectives, including the athletes, coaches, parents, programme facilitators, and sport  
5 administrators. Six focus groups were conducted with 54 high-performance athletes from six  
6 sports: squash, softball, baseball, netball, triathlon, and surfing. Three focus groups were  
7 conducted with parents ( $n = 8$ ) of athletes and a further eight semi-structured interviews were  
8 conducted with coaches ( $n = 4$ ) and lead facilitators ( $n = 4$ ) of the life-skills programme. Four  
9 semi-structured interviews were also held with representatives from State Sporting  
10 Associations (SSAs) from the sports involved. Thematic content analysis revealed seven main  
11 themes: *achieving balance and managing stress, time management, goal setting, confidence*  
12 *and control, information overload and repetition, credible role-models, coach reinforcement*  
13 *and follow-up*. The programme was perceived to be moderately successful in developing  
14 adaptive behaviours and motives including better engagement in training and in adopting time  
15 management and planning skills in contexts outside of sport such as homework and academic  
16 study. The programme also fostered the development of skills, attitudes, and motives  
17 important for sport success such as goal setting and having confidence to succeed. To  
18 improve the effectiveness of such programmes, more emphasis should be placed on the  
19 practice of, and engagement with, applied techniques to develop skills with less emphasis on  
20 information giving and theory. Facilitators of programmes should also be more pro-active in  
21 involving parents and coaches as a way to improve continuity and provide post-program  
22 reinforcement and support.

23  
24 **Keywords:** Life skills; Intervention; Adolescent athletes; High Performance; Qualitative  
25 evaluation



1 setting, positive self-talk, problem solving). The intervention resulted in successful changes in  
2 athletes' adoption of sport skills, and improved confidence to apply life skills relative to  
3 athletes in the control group. A second study on physical education students also  
4 demonstrated effectiveness in relation to gains and retention on physical fitness (measured by  
5 sit-and reach and push-up tests), knowledge and self-beliefs regarding goal setting compared  
6 to a control group (Goudas et al., 2006).

7         A similar programme, *Going for the Goal*, has demonstrated success in increasing  
8 intrinsic motivation for school work and improvements in self-esteem (Hodge, Creswell,  
9 Sherburn & Dugdale, 1999). Two large studies involving between 350 and 479 middle school  
10 students respectively have also evaluated the Going for Goal programme (O'Hearn & Gatz,  
11 1999; 2002). Findings from the first demonstrated a significant increase in knowledge of goal  
12 setting skills and a significant increase in goal attainment (O'Hearn & Gatz, 1999). The  
13 second study also revealed significant improvements in problem solving skills following the  
14 GOAL programme. The *Play It Smart* programme, developed by Petitpas, Van Raalte,  
15 Cornelius, and Presby (2004), aimed to improve adolescent athlete's academic, athletic and  
16 personal development. Results demonstrated grade point increases, increased participation in  
17 community volunteering and increased knowledge and use of health enhancing behaviours.  
18 Finally, in the *First Tee* programme, participants referred to ways in which they could transfer  
19 life skills learned and developed in programme to non-sport settings (Petitpas, Cornelius &  
20 Van Raalte, 2008). A recent evaluation of The First Tee also demonstrated that strategies  
21 learned during the intervention, in particular, coping with negative thoughts and emotions,  
22 were used both on and off the golf course (Weiss, Stuntz, Bhalla, Bolter, & Price, 2013).  
23 Specifically, the skills and strategies that were successfully transferred to other life domains  
24 included STAR (stop, think, anticipate, respond) and the 4 R's (Replay, relax, ready and  
25 redo).

26         A limitation of these studies is that no direct measures of life skills were taken and  
27 there is considerable evidence that knowledge and motivation alone do not necessarily result  
28 in subsequent behaviour change (e.g., Chatzisarantis & Hagger, 2005; Hagger &

1 Luszczynska, 2014; Sniehotta, Pesseau, & Araújo-Soares, 2014). A similar point has been  
2 echoed by Hodge, Danish and Martin (2013) stating that most evaluations of life skills  
3 interventions give “no indications that either knowledge can be applied or that the self-beliefs  
4 resulted in actual behaviour change” (p. 1131). Another gap in the literature on life skills  
5 interventions is the inclusion of high level performance athletes, and this is a strength of the  
6 current study. In one of only a few studies that have conducted with high-level athletes (at  
7 least county level, some international), Jones, Lavallee and Tod (2011) reported  
8 improvements in perceived use of communication and organizational skills in sport. However,  
9 the study by Jones et al. (2011) did not explore whether participants transferred life skills  
10 across to other life domains. A particular strength of the current study is its focus on whether  
11 participants use life skills taught on the programme in other life domains outside of sport.  
12 Following research demonstrating the effectiveness of life skills interventions through sport,  
13 more recent work has attempted to identify which life skills are most needed by young  
14 athletes. In a survey of high school coaches, Gould, Chung, Smith, and White (2006) found  
15 that poor communication skills, a lack of motivation and discipline, and failure to take  
16 responsibility were the main areas that required development in young athletes and would  
17 lead to better personal and social outcomes. A further study used focus groups to explore the  
18 life skill needs of adolescent athletes from a range of perspectives including coaches, parents,  
19 student-athletes and sport directors (Gould, Carson, Fifer et al., 2007). The life skill issues  
20 identified as important included: dealing with increased pressure, handling unhealthy parental  
21 involvement, restructuring inappropriate attitudes about winning and the meaning of success,  
22 and resisting pressures to use and abuse tobacco, alcohol and drugs. In order to meet these  
23 demands, and keep the life skills programmes focused on adaptive outcomes of to athletes,  
24 Gould and Carson (2008) suggested that a robust life skill set would include time and stress  
25 management skills, character development and decision making skills, communication skills,  
26 leadership skills, links to positive adult and peer role models, and general confidence and self-  
27 efficacy. In a more recent study with those who coach young athletes, Vella, Oades, and  
28 Crowe (2011) found that coaches saw themselves as responsible for the development of many

1 positive outcomes in athletes including character, competence, confidence, psychological  
2 capacities, connection, and life skills. It's noteworthy to point out that the theme of life skills  
3 was the second most frequently cited outcome fostered by coaches with character being their  
4 most frequently cited intended outcome. Another study involving coaches in high school and  
5 community settings found that self-confidence and respect were the most frequently reported  
6 life skills taught by the coach (Trottier & Robitaille, 2014). The addition of life skill  
7 components indicates a shift in focus from purely sporting outcomes towards a more holistic  
8 approach to coaching young athletes.

9         The present study aimed to evaluate the perceived effectiveness of a life-skills  
10 programme, known as *Developing Champions* (DC), which focuses on the key aspects of life  
11 skills deemed as important in previous work (Gould & Carson, 2008). The DC programme  
12 was developed through a partnership between the Department of Sport and Recreation (DSR),  
13 a division of the state Government of Western Australia, and the Western Australian Institute  
14 of Sport (WAIS) as a life skills programme for emerging high-performance young athletes.  
15 The population of athletes is school-age children and adolescents and therefore need to  
16 balance the challenges of regular practice and training, competition, and stress demands of  
17 their sport alongside those of their academic work, and social and family relationships.  
18 Research has identified that learning to deal with increasing pressure and expectations and  
19 counteracting inappropriate attitudes and expectations about winning and the meaning of  
20 success are key life skill issues and concerns faced by today's high school athletes (Gould et  
21 al., 2009). This makes the target population of high-performance athletes a primary target  
22 group for life skills interventions such as the DC programme that aims to assist athletes in  
23 coping with the demands of their lifestyle as a high-performance athlete and also provide  
24 them with skills to effectively manage their time and emotions and improve coping skills. The  
25 DC programme was designed to help develop psychological skills in young high-performance  
26 athletes and provide them with key self-regulation and coping skills to perform at their best in  
27 sport, whilst maintaining a balance between sport, academic studies and a social life. The aim  
28 of the DC programme is to assist aspiring young athletes to engage in adaptive behaviours in

1 sport (e.g., training, competition) and outside of sport (e.g., home, school, and social life) and  
2 make positive decisions, which will enable them to successfully enter and then progress along  
3 the high-performance highway. The DC programme is delivered to athletes aged 13 and 18  
4 years of age via a three stage delivery model: Stage 1 – *Foundations for My Success*; Stage 2  
5 – *Advancing along My Sporting Pathway*; Stage 3 – *Intensive Servicing*. Within Stages 1 and  
6 2, there are core and elective modules based on the needs of the athletes. The core module  
7 covered by all athletes includes the following topics: sporting commitment and life balance,  
8 self-awareness, mental states and performance, confidence, managing stress and planning for  
9 success. The elective modules include: Managing my body, Mental skills, A Positive Me, and  
10 Communication. The DC programme was delivered by didactic-type lectures and seminars in  
11 conjunction with the use of workbooks and worksheets. The facilitator, in discussion with the  
12 coach, selected the elective module based on what was deemed most appropriate for the  
13 athletes at the time. The objectives of the DC programme are to achieve positive behaviour  
14 change in targeted athletes by developing athletes' interpersonal and personal life skills; and  
15 enhancing their ability to apply these skills within different contexts. The DC programme was  
16 delivered by trained facilitators (n = 4). The lead facilitator who designed the programme had  
17 a degree in Sport Psychology and postgraduate certificates in training and assessment, and in  
18 career development. The other three facilitators all had careers in elite sport with sport  
19 coaching experience. These former elite athletes had been involved in the delivery of the DC  
20 programme for two years prior to taking on a lead facilitator role. In order to be a lead  
21 facilitator, these individuals also participated in a Facilitator Training Professional  
22 development course. The research is expected to provide detailed insight into the attitudes  
23 toward, and perceived effectiveness of, the DC programme in terms of developing key  
24 transferable life skills (such as goal setting, problem solving, time management, and coping  
25 with pressure) targeted by the program that are likely to be applicable to participating  
26 athletes' behavior in and outside of the sport settings.

27         Given the broad nature and flexible aims of life skills training programmes, evaluation  
28 of the programmes in terms of their impact on key outcomes and comparing their efficacy

1 across programs presents a considerable challenge. Nevertheless, thorough evaluation efforts  
2 should be conducted alongside the delivery of the programme in order to evaluate the impact  
3 of life skills programmes on the development of key skills in participating athletes and key  
4 outcomes relevant to their sport performance and in other life contexts (e.g., school, social  
5 and home life). The importance of qualitative research in this area has been highlighted: “We  
6 know so little about life skills development through sport that describing the conditions and  
7 experiences of those involved is essential” (Gould & Carson, 2008, p. 69). It is also important  
8 to involve athletes, coaches, service providers and parents in the evaluation of the  
9 effectiveness of such programs. However, the attitudes, views and experiences of significant  
10 others with whom the athlete or facilitator interacts (e.g., coaches, parents) are often neglected  
11 (Sharp, Woodstock, Holland, Cumming & Duda, 2013). Such process evaluation research is  
12 essential to identify the aspects of the programme that are leading to effective change; the so-  
13 called ‘active ingredients’ of the programme that lead to salient outcomes (Hagger, 2010,  
14 2014; Hagger, Wood, Stiff & Chatzisarantis, 2010). Previous studies have provided a  
15 conceptual model and identified candidate mediators that may explain how the content of life  
16 skills programmes affect a change in key behaviours in athletes.

17 A key example is provided by Hodge et al. (2013) who identified that the mechanisms  
18 by which life skills programmes affect behaviour change in athletes is through the provision  
19 of support for basic psychological needs by the coach and other programme leaders based on  
20 self-determination theory (Deci & Ryan, 2000). Fostering autonomy support toward key  
21 behaviours is important because it is more likely to lead to increased autonomous motivation  
22 and intentions to participate in the behaviours (Cheon & Reeve, 2013; Hagger, Chatzisarantis,  
23 & Harris, 2006). From our perspective, autonomy support focuses on two aspects of  
24 programmes, that are not entirely independent, but each will have an effect on changing  
25 behaviour. The first is the content. Life skills programmes need to provide content that will  
26 engage athletes and assist them in developing goal content that is meaningful, personal, and  
27 consistent with their sense of self. This will foster autonomous forms of motivation toward  
28 the key lifestyle outcomes that are the target of the programme because the goals will be



1 consistent with basic psychological needs of autonomy (goals that are meaningful, personal,  
2 and consistent with sense of self) and competence (mastery experiences). The second is  
3 interpersonal style has been identified as one that is extremely important in behaviour change  
4 interventions (Hagger & Hardcastle, 2014). Coaches and leaders can adopt a style that  
5 scaffolds athletes' motivation by providing them with a rationale for their actions, giving  
6 them a sense of choice, acknowledging travails and conflicts, encouraging exploratory and  
7 questioning approaches to problems, and avoiding controlling or didactic language. These  
8 will be consistent with, and satisfy, athletes' psychological needs for relatedness. Together,  
9 these approaches form the mediating factors that may be the means by which the programme  
10 affects change in behaviour. It is important that researchers and practitioners alike are aware  
11 of these possible mechanisms for change, and that any evaluation of programmes is made  
12 through the lens of potential mechanisms.

13 To date, there have been few qualitative studies conducted to evaluate the  
14 effectiveness of life skills programmes (e.g., Camire, Trudel & Bernard, 2012; Goudas &  
15 Giannoudis, 2010; Petitpas et al., 2008). The majority of life skills research have used quasi  
16 experimental (e.g., Petitpas et al., 2004) or experimental designs (e.g., Goudas & Giannoudis,  
17 2008; Papacharisis et al., 2005) using questionnaire data to assess aspects such as knowledge  
18 and self-beliefs, or behavioural outcomes such as sport-skills tests (e.g., Goudas &  
19 Giannoudis, 2008; Papacharisis et al., 2005) or academic achievements (grade point averages)  
20 (Petitpas et al., 2004). The only qualitative study exploring the perceived effectiveness of a  
21 life skills programme from multiple perspectives, including athletes', coaches', parents' and  
22 administrators' was conducted by Camire and colleagues (2013). They provided a  
23 comprehensive case-study of the programme and found that the programme's format allowed  
24 coaches to spend time and develop quality relationships with players and implement  
25 innovative approaches to teach life skills and values. However, Camire et al.'s (2013) study  
26 only involved athletes from one sport (Ice hockey) and all participants were male. As such,  
27 the findings may not necessarily generalise to programmes using other sports to develop life  
28 skills.



1 Participants were high-performance athletes identified through state-level sport  
2 governing bodies and involved in high-performance programmes from a variety of individual  
3 and team sports. Opportunistic sampling was used to recruit participants and depended on  
4 which athletes attended training the day the focus group discussions took place. Inclusion  
5 criteria were: enrolment in a high-performance athlete programme, aged 13 to 18 years, and  
6 received at least one workshop of the DC programme. The coaches were selected from a  
7 limited pool of individuals involved in the coaching of athletes in the programme, and were  
8 interviewed after responding to requests from the research team. Parents were recruited by  
9 word-of-mouth through the coaches and athletes that were involved in the programme. The  
10 facilitator sample comprised the entire DC programme facilitator cohort. State sporting  
11 association (SSA) representatives of the sports involved in the DC programme were recruited  
12 through contact with the associations through WAIS and the DSR. Overall, six athlete focus  
13 groups were conducted with athletes from the following sports: Squash ( $n = 10$ ), Softball ( $n =$   
14  $8$ ), Baseball ( $n = 8$ ), Netball ( $n = 10$ ), Triathlon ( $n = 8$ ), and Surfing ( $n = 8$ ). Three focus  
15 groups were also conducted with parents of athletes. One-to-one semi-structured interviews  
16 were conducted with the lead facilitators of the DC programme ( $n = 4$ ); coaches ( $n = 4$ ); and  
17 SSA representatives ( $n = 4$ ). In total, 12 one-to-one interviews and 9 focus groups were  
18 conducted involving 73 participants. The authors were not involved in the development of the  
19 DC programme or its delivery. This was made clear to all participants prior to consent and  
20 reinforced at the beginning of each interview or focus group. The aim was an independent  
21 evaluation of the programme that could encourage open and honest discussion.

22 Ethical approval was obtained from [University name omitted for masked review]  
23 University prior to data collection. Participants and their parents or guardians signed consent  
24 forms to confirm that they were fully informed about the purpose of the study and understood

1 their participation rights (e.g., voluntary participation, right of withdrawal, and confidentiality  
2 of the data).

### 3 **Focus Group Procedures**

4 Focus group interviews were chosen over one-to-one interviews because they offered an  
5 open platform for the athletes to freely discuss their views towards the DC programme with  
6 their fellow teammates, and the group environment could facilitate interactional dynamics,  
7 which may bring in more open discussion and elaboration of perceptions and experiences  
8 with the programme. The decision to adopt a focus group methodology was also a pragmatic  
9 one given that gaining access to the athletes for individual interviews prior to or following  
10 training sessions would be extremely difficult from a logistical and resource allocation  
11 perspective. We used the focus group methodology advocated by Sparkes and Smith (2014).  
12 There was an attempt to be pro-active in encouraging participants who were less forthcoming  
13 in expressing their views to contribute, but without pressuring them unduly. However, it is  
14 acknowledged that a limitation of focus groups is sometimes the dominance of a few  
15 participants.

16 The focus-group interviews lasted approximately 60 minutes. According to Millward  
17 (2012), most focus group researchers agree that the maximum duration for each session  
18 involving children is 1 hour. Prior to commencement of the interviews, participants were  
19 reassured that their identities and sensitive information would not be disclosed. Participants  
20 were encouraged to share their honest experiences and attitudes following participation in the  
21 DC programme. In order to facilitate group interactions and the depth of discussion, the  
22 researcher encouraged participants to discuss freely with other interviewees in the focus group  
23 and to provide additional comments, elaboration, or clarification of their expressions. Each  
24 focus group included athletes from a single sport. The focus group interviews with athletes  
25 explored their understanding of the key messages of the programme, and their attitudes and

1 beliefs about the programme including its value and how it has affected their motivation and  
2 behaviour, particularly their attitudes towards sport, their commitment, and their motivation  
3 and behaviour outside of sport such as application in school. Each focus group was led by a  
4 trained facilitator (the project co-ordinator or others on the project team) with experience with  
5 focus groups and interviewing skills. Participants were given a brief introduction to the focus  
6 group and its purpose, and that their involvement in the discussions was entirely voluntary.  
7 Permission was sought to audio-record the focus group discussion. After a brief 'ice-breaker'  
8 exercise to build rapport, the facilitator used the previously-developed focus-group schedule  
9 to generate discussion and interaction between the group members and politely encourage all  
10 members of the group to contribute. Example questions included the following: "Can you tell  
11 me a bit about your experiences with the DC programme?"; "What has stuck in your mind?";  
12 "What did you learn?"; "Did you find there's anything that you were taught during the course  
13 of the programme that you took to your training?"; "How did you get on with the athlete  
14 workbooks that you were given?"; "Did you fill them out?"; and "If you could make one  
15 recommendation for improving the DC programme, what would that be?" Each focus group  
16 recording was transcribed verbatim.

### 17 **Semi-Structured Interviews**

18 Semi-structured one-on-one interviews (Sparkes & Smith, 2014) were conducted with  
19 the lead-facilitators of the DC programme and external stakeholders (coaches and  
20 representatives from SSA's) to elicit their attitudes and beliefs toward the DC programme and  
21 to explore their perceptions on the effectiveness of the programme on athlete attitudes,  
22 motivation, and behaviours. Some of the example questions put to the facilitators, coaches  
23 and SSA's included the following: "What is your understanding of the DC programme?";  
24 "What do you see as the key messages of the programme?"; "What do you think your  
25 athletes have taken away or done differently (if anything) since their participation in the

1 programme?”. These interviews were audiotaped with the consent of the participant and  
2 transcribed verbatim. In total (including both focus group and one-to-one interviews), there  
3 were 285 pages of transcribed data.

#### 4 **Analysis**

5 Data were analysed using inductive thematic analysis (Braun & Clarke, 2006). Several  
6 steps were involved in the process of analysis. The first step involved *immersion*. During the  
7 immersion process the transcripts are read carefully several times to identify participants’  
8 meanings and experiences. The second step involved attaching codes to salient text segments.  
9 The initial coding was systematically conducted on the entire data set. The third step involved  
10 the identification of themes at a broader level and examining whether codes may be combined  
11 to form an overarching theme. During these processes, inductive analysis was used to identify  
12 themes that emerge directly from the data linked to attitudes toward, and experiences of, the  
13 DC programme. This is in contrast to a deductive approach whereby predetermined themes  
14 are used to organize quotes. It is recognized, however, that although there is an attempt to be  
15 ‘open’ to the data in terms of emerging themes, the subsequent themes developed and  
16 interpretations offered will also be influenced by the researchers’ prior knowledge and in  
17 relation to previous research and theoretical constructs (Bradley, Curry, & Devers, 2007;  
18 Braun & Clarke, 2006). The final step involved reviewing themes, cross-checking for overlap  
19 and differences and finally defining and naming themes. The processes involved in  
20 undertaking a thematic analysis are explained in further detail by Hall et al. (2012).

#### 21 **Markers of Quality**

22 We have attempted to demonstrate quality in the current analysis and interpretation by  
23 meeting the criteria for quality in interpretive research outlined by Tracy (2010). She  
24 proposed eight markers of quality in qualitative research: worthy topic, rigour, sincerity,  
25 credibility, resonance, contribution, ethical, and meaningful coherence. Given the recent

1 developments and interest in using sport as a context to promote life-skills and the potential  
2 for these programmes to promote youth's academic, personal and social development (e.g.,  
3 Camire et al., 2012; Gould et al., 2008), we consider the evaluation of such programmes as a  
4 worthy topic. We aimed to achieve rigour by a thorough approach to data collection,  
5 collecting data from a variety of contexts (different sports), and multiple viewpoints (athletes,  
6 parents, coaches, facilitators, sport directors). We have attempted to demonstrate credibility  
7 by use of thick description and multivocality to allow reader judgement of interpretations. We  
8 aimed to achieve resonance through evocative representation of participant attitudes and  
9 perceptions and the potential for transferability of findings. Finally, we attempted to satisfy  
10 the criterion of meaningful coherence by achieving its aims and by meaningfully  
11 interconnecting literature, research questions and findings and interpretations with each other.

12

### Results

13 The purpose of this study was to explore attitudes towards, experiences of, and  
14 perceived effectiveness of a life-skills programme for high-performance young athletes  
15 from multiple perspectives, including the athletes, coaches, parents, programme  
16 facilitators, and sport administrators. The thematic content analysis of the data identified  
17 seven main themes connected to experiences of, and perceived effectiveness of the  
18 programme and these included: *achieving balance and managing stress, time*  
19 *management, goal setting, confidence and control, information overload and repetition,*  
20 *credible role-models, coach reinforcement and follow-up*. The first four themes are related  
21 to the central research question of perceived effectiveness and behaviour change  
22 (*achieving balance and managing stress, time management, goal setting, confidence, and*  
23 *control*). The following themes of *information overload* and *credible role models* are  
24 connected to experiences of, and attitudes towards, the programme. The final theme of  
25 *reinforcement and follow up* is related to the effectiveness of the programme and the

1 likely need for reinforcement and coach involvement. These themes will be discussed in  
2 turn.

### 3 **Achieving Balance and Managing Stress**

4 One of the key themes that emerged in the current research was importance of  
5 achieving a 'balance' between academic, social and sporting demands and coping with  
6 stress. Athletes identified this as an important aspect of their development and needs:  
7 "Time management with like school and stuff, like school a priority, important and you  
8 need to like balance out your school work and your homework and stuff with sport"  
9 (Female (F), Softball). Another participant referred to the need to be able to "balance your  
10 sporting with your social and all the other stuff like work school" (M, Triathlon). When  
11 asked what they learnt from the programme, several athletes pointed to the importance of  
12 balance: "that you can't invest all your time into one thing, you've got to have balance"  
13 (F, Netball) and "how to have like a balance in life" (M, Surfing). The DC programme  
14 appeared to help athletes develop a balance across their various commitments by  
15 prioritising their time and effective planning:

16 We had a little square and it had like what are your four main priorities, they were  
17 school, sport, social, family and we had to number it in what we thought was most  
18 important at the time and the least and from that you could kind of do your planning  
19 but if you thought one was more important than the other one then you put more time  
20 to that obviously ... it was good like because you never sit down and think what's  
21 more important than the other you just like go through your day but having to sit  
22 there and be like which ones more important than the other made you think about  
23 what you wanted" (F, Netball)

24 In addition, athletes indicated that the programme had utility in assisting them to cope  
25 with stress through the provision of coping strategies for dealing with stress "like how to  
26 deal with stress...breathing, just take 10 deep breaths" (F, Surfing). Other stress  
27 management techniques learnt on the DC programme and adopted include imagery and  
28 positive self-talk "I reckon imagery, I did it today...the confidence and mental part of it



1 was a big thing for me, I'll stress out and stuff up...so like if I do stuff up I just think oh  
2 okay do it again and do it better, I never used to do that and it helped me out" (F,  
3 Softball). Mental imagery and self-talk were also adopted by a surfer following  
4 participation in the DC programme "It was helpful like after a wave if you stuff up or  
5 when you're paddling out, rather than think about everything you did wrong just visualise  
6 what you did right and just fix it on the next wave" (M, Surfer). Stress was something that  
7 the athletes could relate to, had experience of and as such found that "learning about stress  
8 is good...like going to school at the moment and doing training can be a bit stressful and  
9 learning to deal with it together is good" (F, Squash). The programme appeared to help  
10 equip the athletes with stress management tools.

### 11 **Time Management**

12 Improved time management was identified as a key outcome of the programme. The  
13 focus on time management led some athletes to make behavioural changes:

14 I adjusted my timetable and made it more realistic so before I would have like 3  
15 hours of study straight after school before I get 15 minutes to go and get to training  
16 but now I do give myself like half an hour after school to chill out and then do 2  
17 hours and then give myself half an hour to get to training then that's a lot easier to  
18 effectively put in play rather than putting all these you know unrealistic time frames  
19 (M, Triathlon).

20 Some described being more organised since participating in the DC programme "Its  
21 got me into being more organised with like my training and out of training like school,  
22 social all that stuff" (M, Triathlon) and "it helped us out with our time management" (F,  
23 Softball). Another hinted that time management skills developed through the DC had been  
24 transferred to her academic studies "I did make a table over exams like time management  
25 and like I did study blocks and training blocks and then all the other like in between stuff  
26 because otherwise things wouldn't have worked" (F, Netball).

27 Another athlete alluded to improvement in time management following participation  
28 in DC "I would just leave my homework until like after softball like the very last minute

1 when it was due but now I kinda try to do it early and get it done then do sport. Even  
2 though I still go to sport I just kinda do my homework before” (F, Softball). Another  
3 athlete’s parent also referred to the success of the DC programme in helping her child to  
4 use the tools they were introduced to on the programme “There was something sent  
5 through that Jon [fictitious name] took away and used some of it, it was online a timetable  
6 or something that he’s adapted” (Parent, Swimming).

### 7 **Goal Setting**

8 Many athletes referred to goal-setting as a key tool they learnt from the programme.  
9 However, although most agreed that goal-setting was important and useful, there were  
10 mixed behavioural responses. Some athletes reported they went on to use goal-setting  
11 while others reported that they did not. The main message that athletes assimilated in  
12 relation to goal setting concerned the importance of setting realistic goals “to keep them  
13 realistic because there’s no point having a goal that’s unrealistic because you’re just  
14 gonna set yourself up for failure” (F, Surfing) and process goals: “it kinda made you  
15 aware of all the little steps in between that you had to achieve first” (F, Surfing).

16 Some athletes could not remember their goals “I forgot all the goals I wrote down”  
17 (M3, Squash) or had goals that were not necessarily attainable “I’m pretty sure I wrote  
18 down that I wanna be number 1...she told me that was unrealistic...I thought she was  
19 joking but there was actually a reason, I think it was because that goal was affected by  
20 others” (M3, Squash).

21 It would appear that writing itself was ineffective for most in terms of making  
22 behavioural changes and sticking to them. Although goal-setting was adopted by some  
23 athletes, change was perceived to be rather short-lived by some of the parents and coaches  
24 “I think the goal setting was really good and I know my son did put a few things on his  
25 wall to remind him and I think the planning and all that...but they do it at the course and  
26 then walk away and that’s it...I think he learnt a lot but I don’t see any major changes in  
27 him” (Parent). Another parent indicated the short-lived nature of lifestyle changes “While  
28 it was fresh they’re running really well with that then it did taper off you know the food,

1 the anti-foods started to creep back in, comfort, you know, the reward food rather  
2 than...but yeah I definitely saw it while it was fresh in his mind, he really applied it”  
3 (Parent, Surfing). Another questioned the effectiveness of goal-setting when it’s done  
4 solely by the athlete and not in conjunction with the coach “I’ve got the feeling though  
5 most of them write it down, they don’t discuss it with anyone...is it realistic, they don’t  
6 discuss a time frame that I can get there...at the course they are told to write it down but  
7 us coaches never see it” (Coach). The coach also alluded to ineffective planning on how to  
8 achieve goals and perhaps the importance of setting process goals “We had a session in  
9 January and a lot of them put to get fitter and we went away and two of them didn’t...so  
10 the goals they made yes they were realistic they just didn’t do them” (Coach).

11 The DC programme material was delivered mainly through seminars using  
12 workbooks. However, such pen and paper techniques may not be the most effective way  
13 of facilitating behavioural changes. Several athletes started using apps on their computers  
14 and this appeared to be something taken on board from the WAIS athletes on the DC  
15 programme acting as role models). One athlete referred to an application on her laptop  
16 that helps her to focus on all tasks and acts as a self-monitoring tool:

17 I’ve got a really good app on my lap top and its always there so like if I’ve got it  
18 always there like rather than on a piece of paper, it’s called ‘I procrastinate’ and  
19 rather than having a set thing you actually like add a task to the subjects, like if its  
20 English I can add it to English, or if it’s something to do with netball or tutoring or  
21 whatever I can add it to that so all of today’s comes up today and you can see  
22 tomorrow and all of the tasks...on a piece of paper it just gets lost cause I never  
23 check it, I never look at it (F, Netball).

24 Another player reported using her phone as a planner and self-monitoring tool. She  
25 found the prompts as a reminder particularly useful “ I used to do it on my phone last  
26 year, I had all the training sessions and then it gives you little reminders and then I’d add  
27 stuff and I found that really easy because you’re on the phone all the time” (F2, Netball).

1 A triathlete also referred to using an app, having been recommended to him by an elite  
2 athlete in the DC programme:

3 I think Jessi [one of the elite athletes] was going through some of the apps that he  
4 used to write down what he would do in training and he sort of suggested that and I  
5 took to the idea and started doing it...it's good to look at your training diary and see  
6 what you were doing during training and then replicating that to get the best  
7 performance because obviously that style or whatever you're doing works the best  
8 (M, Triathlon).

9 The triathlete above and others also demonstrated self-awareness and the capacity for  
10 self-evaluation and reflection that may also emanate from participation in the DC  
11 programme. Indeed, one of the topics within the core module is self-awareness. Another  
12 triathlete also started to use such self-monitoring techniques. When asked if she got the  
13 idea from DC, she replied "Yeah I'd also been told before to do it but I just couldn't be  
14 bothered but now I've realised I need to do it" (F, Triathlon). The manner in which  
15 information and strategies are delivered would appear to be important. The previous quote  
16 indicates that being 'told' to do something isn't very effective for eliciting change. These  
17 athletes only digested the information when they were able to see it as personally relevant  
18 for them and/or had the added support of the WAIS elite athlete. Findings point to the  
19 importance attached to the delivery 'style' in which material was delivered in addition to  
20 the provider (credibility) of information. For these athletes, credibility in the form of  
21 experience was important in the acceptance of information and proposed strategies. This  
22 point related to credibility of role-models will be discussed further in a later section.

### 23 **Confidence and Control**

24 A key message that athletes appeared to take away from the DC programme was the  
25 importance of having confidence in sport "We learnt that you have to be confident in  
26 yourself to be good at what you're doing out there like if you're not confident in yourself  
27 then you're nothing" (F, Softball). She goes on to say "that helped me out like if I do stuff  
28 up just think okay do it again and do it better, I never used to do that and it helped me

1 out”. Another said “We learnt a lot about confidence...that you can be successful if you’re  
2 confident in yourself” (M, Baseball). The baseball player referred to playing with a  
3 different approach since participation in the DC programme “well you come to play with a  
4 different approach...like self-talking up more, feeling more confident in yourself like yeah  
5 I can hit xxx even though my throw is a mid-80”.

6 One of the coaches suggested that the DC programme had enhanced athlete self-  
7 control whereby athletes were taking more initiative in their training “I think they’re  
8 taking more ownership, and that’s from the programme that they know the ownership is  
9 theirs...it’s not up to the coaches to do their training for them, they’ve now come back  
10 and are initiating stuff so they are realising if I want to do it it’s up to me” (Coach).  
11 However, not all coaches felt that the strong focus on confidence to be so essential for  
12 many of the athletes involved “The athletes were already showing quite a high level of  
13 confidence so I felt there wasn’t much change because obviously they were already rating  
14 quite highly on that”.

### 15 **Information Overload and Repetition**

16 Several athletes expressed that the amount of information provided in the course of  
17 the DC programme was excessive and, at times, overwhelming:

18 I think we just get told a lot of information kind of I think that’s the thing, there’s a  
19 lot of things that are like do this do this do this and you’ll be a better player and after  
20 a while there’s just so many things that you should be doing on goals setting and all  
21 that and just like how much can you do (F, Netball)

22 Information overload was also associated with the duration of workshops, which  
23 were often regarded as too long and not sufficiently engaging “they were pretty brutal  
24 mornings...a long lecture is very tedious” (M, Squash).

25 The theme of repetition was related to overlap of some of the material covered in the  
26 DC programme with material covered at school and/or within the club setting. It has been  
27 linked to information overload in that such overload might be avoided if the intervention  
28 material was mapped against what athletes already cover (at school, within the sports club

1 environment), so that repetition could be avoided and hence volume of material could be  
2 subsequently reduced. The problem of repetition highlighted by athletes was also picked  
3 up by some coaches “A lot of those girls do a lot of this in school so maybe that’s  
4 something that they might be repeating so it would be worth asking the sorts of things  
5 they do at school” (Coach). Overlap of material was also highlighted by a parent “Our  
6 club provides a lot of information sessions and nutrition sessions, psychological sessions  
7 so they get a lot of that within the club environment anyway” (Parent, Swimming). The  
8 issue of repetition was also raised by the athletes where the mental skills component of the  
9 DC programme was better received compared to the physical health components “the  
10 health we do at school...like what to do with your injuries and that stuff I knew what to  
11 do...the mental part was better” (F, Softball). One specific finding was the overlap  
12 between content of the DC programme and material covered at school “I found it very  
13 similar to school...the school classes I have...like year 12 sports science literally covered  
14 every aspect they covered” (M1, Squash).

15 The volume of content to be covered was referred to by a SSA representative and she  
16 indicated that perhaps workshops should be shorter in duration and with less material  
17 covered “I certainly think trying to do it shorter, whether or not you don’t cover as much  
18 but what you do cover is you know they enjoy and they take it in and they take it away  
19 and use it” (SSA representative). A coach suggested a blended learning approach to the  
20 DC programme involving both e-learning and workshops “Perhaps the athletes would do  
21 a two hour on line workshop and a two hour face to face workshop...and they can work  
22 through the e-learning stuff at their own pace” (Coach). Another s coach also highlighted  
23 the efficacy of the internet, and in particular, Facebook as a way to involve athletes and  
24 promote discussion:

25 A Facebook DC, I mean I hate it but it’s obvious ...they would look at it and then  
26 discuss with each other on Facebook. Did you do xxx [the tasks set in the workbook,  
27 for example], did you look at [the worksheets on effective goal setting, for example]

1           xxx and then they're talking about it because they do discuss a lot of things don't  
2           they (Coach).

3   In relation to methods of teaching and learning, the coach suggested that the best reaction  
4   he got from the girls was when he "did interactive stuff, scenarios...got into little groups  
5   and got stuck into it...but there were other occasions where it was just like blank canvass  
6   there with some of the girls and you knew that they didn't have any idea what they were  
7   talking about" (Coach).

### 8   **Credible Role-Models**

9           In terms of the perceived credibility of the information delivered through the DC  
10   programme, it was the elite athletes that were asked to act as occasional programme  
11   facilitators that were held in the most high positive regard by the athletes, not only  
12   because of their knowledge but their previous sport and competitive experience "He's  
13   [referring to the elite athlete] just really relatable cause like he's done what we've done so  
14   we just like we'll listen to you more cause you know what you are talking about" (F,  
15   Netball). Another said "It was good how there was people who could speak from  
16   experience...because they had their own experiences that they could share...what they  
17   found helpful and things like that (F, Surfing). One athlete makes a clear distinction  
18   between knowledge and experience "It's good they have athletes not just random people,  
19   someone who sits behind a desk all day...someone who's actually been through what you  
20   are going through or going to go through" (M, Baseball).

21           The credibility of the elite WAIS athletes was also noted by the coach "As soon as  
22   the Hockey lady came bang the kids sat up again because I think in the back of their  
23   minds, (often the facilitators) have never been there...never done it, never experienced it  
24   whereas these athletes have" (Coach). A similar belief was echoed by one of the  
25   workshop facilitators "I think really believing what you're saying and not just giving a  
26   generic example...so you've got to know what you're talking about...if you've been  
27   through the experiences it helps" (Facilitator 2)

1           The approval and testimonies of the elite athletes that served as occasional  
2 facilitators of the DC programme was also noted by a parent and coach “We say it’s really  
3 good but if a WAIS athlete said well that actually, it works, it means something yeah, I  
4 think that’s the main thing having a WAIS athlete there...this is a real person” (Parent &  
5 Coach).

#### 6 **Coach Reinforcement and Follow-up**

7           All interviewees (athletes, coaches and SSA’s) referred to the importance of  
8 reinforcement and follow-up sessions following participation in the DC workshops. From  
9 a mechanisms of change perspective, this is important as coach involvement with the  
10 programme and the suggested activities and changes that the programme is aimed at, will  
11 likely satisfy athletes psychological need for relatedness, and, through that, autonomous  
12 motivation to maintain the change. One athlete indicated the lack of accountability in the  
13 follow-up of tasks “they asked us to do as homework and bring it in next time...but we  
14 didn’t go over it...like we didn’t have to show them” (M, Baseball). Several athletes also  
15 pointed to the volume of information they received and the lengthy time gap between the  
16 DC sessions:

17           It needs more follow up, if there was more follow up you might actually start using  
18 it more, like if you’re having it more regularly then you could actually assess  
19 yourself...6 months ago is a long time to remember a 4 hour class...you’re not going  
20 to retain that (M, Squash).

21           Some athletes desired further guidance on the practical implementation of strategies. For  
22 example “how to plan out nutrition and like availability of stuff on like a low budget...we  
23 are all students and everything and like after school once we are independent how to do  
24 certain things” (M, Triathlon).

25           From the interviews, it was apparent that some coaches were very involved in the DC  
26 programme and kept athletes accountable for the follow-up of tasks whilst others appeared  
27 to know very little about the content of the programme and therefore did not integrate  
28 with their own training regimes



1 (that's) what I did with the workshop I've just run...you have to do this activity, this  
2 activity and this activity and we're going to discuss them on Wednesday so I said  
3 you have to print them out and bring them with you...not that all of them did but a  
4 lot of them did so that kind of thing definitely works (Coach).

5 Another proactive coach also referred to the importance of constant reinforcement and  
6 reminders:

7 I was able to keep drip feeding it constantly...I think the DC sets up the base and  
8 then so long as you've got a coach that knows how to run with it they can keep doing  
9 it like I ways this year...drip feeding it through...so I think that's important that the  
10 coach be there because I think sometimes the coaches haven't always attended  
11 (Coach)

12 From the interviews, it appeared that levels of engagement of coaches at workshops varied  
13 considerably and that participation and involvement of the coach within the DC  
14 programme was seen as an important factor in its perceived effectiveness:

15 Some coaches will sit in on it and they engage and they come up with scenarios and  
16 problems...and then there's others that will make sure the kids are there and then  
17 skip off which makes it really hard because they are the ones who are going to be  
18 there coaching seeing if these kids are applying what we are trying to help them  
19 with...so I think it's really important for the coach to know what we are saying so  
20 that they can hold these kids accountable at training and monitor if it's really  
21 working or not (Facilitator 2)

22 Clearly, follow-up of DC material and sessions was not adopted by some coaches "To be  
23 honest I did not follow up what they wrote down with the DC's, that was a slip for me to  
24 do that" (Coach).

25 And another coach indicates success of the programme in helping athletes to set  
26 goals but that he hasn't been involved in the process "I have never seen any of their goals  
27 so I don't know if they've followed their goals...I would say that before the programme  
28 95% of them didn't set goals" (Head Coach).

1 Others emphasised the importance of reinforcement, particularly in this adolescent  
2 age group “It’s an area we need to develop more I think because we’ve only just touched  
3 the tip of the iceberg...I think that constantly needs to be reinforced particularly with sort  
4 of athletes of their age” (SSA representative). The importance of reminders and prompts  
5 was also reinforced by a parent and coach “I think just reminding the kids...hey look at  
6 your goals do you need to change them...do you need to change your work plan...they do  
7 walk away thinking it’s great and then typical kids in a couple of weeks it’s gone out of  
8 their heads” (Parent & Coach).

### 9 **Discussion**

10 The present investigation aimed to identify the attitudes towards, experiences of and  
11 perceived effectiveness of a life-skills programme for high-performance young athletes from  
12 multiple perspectives including the athletes, coaches, parents, programme facilitators and  
13 sport administrators. There were seven main themes identified as part of the analysis:  
14 *achieving balance and managing stress, time management, goal setting, confidence and*  
15 *control, information overload and repetition, credible role-models, and, coach reinforcement*  
16 *and follow-up.*

17 The DC programme appeared to be successful in helping these athletes to achieve a  
18 balance between their academic, social and sporting demands and activities. Several athletes  
19 reported improved time management and planning skills following participation in the  
20 programme. Improved time management was also noted by some of the parents. The finding  
21 that time management skills were seen as essential self-organization skills has been reported  
22 elsewhere (e.g., Jones & Lavalley, 2009; Jones et al., 2011). The present study provides direct  
23 evidence of time-management skills learned on the programme being transferred to the  
24 context of academic studies; a finding that other studies on life-skills programs in athletes  
25 have been unable to demonstrate (e.g., Goudas & Giannoudis, 2008 & Jones et al., 2011).  
26 However, this finding is entirely consistent with recent research that has demonstrated  
27 transfer of motivation for adaptive skills and behaviours across contexts (Fleig et al., 2014;  
28 Hagger & Chatzisarantis, 2012, 2014). This is important because it illustrates that the current

1 programme may be effective in fostering coping skills across multiple domains relevant to  
2 optimal functioning for athletes (e.g., training, school, social).

3         The DC programme was also successful at increasing knowledge of the principles of  
4 effective goal setting, particularly the importance of setting SMART (i.e., specific,  
5 measurable, attainable, realistic, timely) goals. Previous life skills programmes have also  
6 demonstrated success in knowledge and confidence to set goals (Goudas & Giannoudis, 2008;  
7 O’Hearn & Gatz, 1999; 2002; Papacharisis et al., 2005) and in one case goal attainment  
8 (O’Hearn & Gatz, 1999). The present study builds on findings from previous work  
9 demonstrating that some athletes implemented goal setting and made some behavioural  
10 changes (as opposed to simply increasing knowledge and confidence for goal setting).  
11 However, such changes were perceived to be rather short-lived by some of the parents and  
12 coaches. At other times, goals were written on paper but not acted upon. It would appear that  
13 the DC programme was effective in heightening awareness of key adaptive self-regulation  
14 skills but was insufficient in helping athletes to consistently implement such strategies. It may  
15 be that there were insufficient components within the program to develop more autonomous,  
16 self-determined motives to engage in self-regulation skills like goals setting. Research has  
17 demonstrated that self-determined, autonomous goal setting is more effective in  
18 demonstrating persistence with, and adherence to, behavioural change (Fenner, Straker,  
19 Davis, & Hagger, 2014; Vansteenkiste, Simons, Soenens, & Lens, 2004). One means to do  
20 this is through autonomy support, and the testimonies from the facilitators indicate that the  
21 presentation of the programme did not take into account the presentational style which may  
22 have fostered autonomy in the athletes toward the program content (Cheon & Reeve, 2013;  
23 Hagger & Hardcastle, 2014). Furthermore, a lack of continued support and follow-up of the  
24 themes and content using autonomy-supportive approaches may have been necessary to  
25 engender the kinds of self-determined motives in athletes to engage in goal setting and other-  
26 self-regulatory behaviours relating to sport performance on a regular basis (Hardcastle &  
27 Hagger, 2011).

1           The athletes felt that they had learned a lot about the importance of confidence in sport  
2 and the teaching of techniques to enhance confidence such as positive self-talk. This is  
3 consistent with Hodge et al.'s (2013) purported mechanisms for behaviour change and those  
4 we have suggested based on self-determination theory. Providing athletes with personal  
5 control and confidence is likely to satisfy their basic psychological needs for competence and  
6 autonomy, and is, therefore, likely to lead to greater autonomous motivation toward the given  
7 behaviour change. Current data also suggest that coaches, as key support personnel, were not  
8 involved in the goal setting process or were unaware of the content covered in the DC  
9 workshops. Gould and Carson (2008) suggest that if life skills programmes are to be  
10 effective, they must teach life skills and values in a purposeful and systematic manner. It  
11 would appear that in the present study, athletes were exposed to a variety of life skills but that  
12 individual skills were not systematically taught, practiced and reflected upon. Furthermore,  
13 there was a lack of formal follow-up of the programme outcomes and no designated  
14 responsibility for the athlete to continue with the content and skills they had been provided in  
15 the programme. For example, if goal setting is to be effectively implemented, the athletes,  
16 coaches and programme facilitators should be involved in the activities planning and  
17 evaluating goal setting. In the present study, the coaches could choose whether or not to  
18 participate in the workshops, and evidence suggests that most chose not to participate.  
19 Furthermore, they were not actively involved in the DC programme delivery or any follow-up  
20 activities and therefore were not party to the athletes' instruction on goal setting and its  
21 principles ("they are told to write it down but us coaches never see it", Coach). There was  
22 considerable variation in levels of engagement of coaches at workshops. Some attended while  
23 others did not and some actively attempted to reinforce messages from the DC programme  
24 whilst others did not. The findings reveal that further reinforcement is necessary and coaches  
25 and parents should be integrated into the programme in order to maximise the effectiveness of  
26 messages and adoption of strategies taught as part of the DC programme. Recent work has  
27 demonstrated that youth coaches see themselves as responsible for the development of many  
28 positive outcomes through sport including that of life skills (Trottier & Robitaille, 2014; Vella

1 et al., 2011). Furthermore, involvement of coaches and other social agents such as parents  
2 may assist in engendering more self-determined or autonomous motives toward the program  
3 content. Autonomous motives will likely lead to more persistence with the content and skills  
4 taught during the course of the program. Given the importance of follow up and the  
5 responsibility that coaches have toward their athletes, they are likely to be open to ways of  
6 building life skills in athletes they work with. Integrating their role within life-skills  
7 programmes like the DC should be considered a priority when developing athlete life-skills  
8 programmes in future.

9       However, our findings also highlighted barriers to further coach involvement. The  
10 coaches had limited contact with athletes other than during practice and game activities. In  
11 addition, most coaches have not received formal training in psychology or sport psychology  
12 and so may lack the training or time to develop life skills (Goldberg & Chandler, 1995).  
13 However, recent research indicates that little formal training may be necessary to achieve  
14 significant improvements in life skills. O’Hearn & Gatz (2002) found that a 10 week GOAL  
15 intervention increased knowledge of life skills and improvements in problem solving skills in  
16 middle-school students that were maintained at further 10 week follow-up. These findings are  
17 promising since the intervention was delivered by high school students that were trained by  
18 graduates and university teachers in a two day retreat (O’Hearn & Gatz, 1999). In the current  
19 study, athletes were given homework and tasks to complete, but the lack of follow-up or  
20 coach and parental involvement appeared to interfere with the implementation and thus  
21 perceived effectiveness of the skills learned during the workshops.

22       Much can be learned on the importance of the coach in teaching key life skills to young  
23 athletes from Camire et al.’s (2013) unique study of a life skills programme for athletes. The  
24 case study examined the strengths and limitations of a high school programme to teach ice  
25 hockey players life skills and values from multiple perspectives, similar to the aims of the  
26 present study. However, the programme-study format adopted in their research allowed  
27 coaches to work with the players seven days-per-week during the season on the development  
28 of life skills, values and sport specific skills (through three on-ice training sessions, two off-

1 ice conditioning sessions and two developmental classes per week), which is very unusual but  
2 provides rich data on their experiences of developing life skills in young athletes and the  
3 specific strategies they use. In the study, coaches used a number of strategies to develop life  
4 skills and nurture positive relationships with their players. Firstly, players were asked to keep  
5 a journal detailing personal events that related to sport or life. Coaches read the journals on a  
6 weekly basis to analyse content and check in with players about their perceptions and  
7 feelings. Second, coach-parent-player meetings were held in order to share the programme's  
8 approach and to provide players and parents with feedback on players' academic, personal  
9 and sport specific development.

10 A key finding of the present study was the significance attached to using elite athletes in  
11 the delivery of the programme, where the elite athletes were seen as effective and credible  
12 role models for the young athletes. The participant athletes appeared to be more attentive of  
13 the WAIS athletes who served as occasional facilitators compared to the regular facilitators of  
14 the programme and the emphasis placed on experience rather than knowledge was evident.  
15 The themes of credible role models and confidence and control lend support for the  
16 conceptual model provided by Hodge et al. (2013) to explain how life skills programmes may  
17 affect behaviour change among athletes. These themes of credible role models, and,  
18 confidence and control reflect features of the programme likely to satisfy the psychological  
19 needs of relatedness, competence and autonomy respectively from Deci and Ryan's (2000)  
20 self-determination theory. The need for relatedness in particular was satisfied by the WAIS  
21 athletes. The advice and testimonies of the elite athletes were deemed important by the  
22 athletes. It seems that more frequent use of elite athletes would be an effective means to foster  
23 engagement in the program material as opposed to a programme that is majority led by  
24 facilitators with expertise in knowledge and theory but a limited experience within sport.

25 Finally, given the culture of immediate internet access via smart phones and tablets and,  
26 in particular, use of Facebook, future interventions should explore the effectiveness of a  
27 blended learning approach to programme delivery comprising on-line learning to support and

1 consolidate learning alongside the modules. Furthermore, discussions and blogs could be used  
2 to better engage these athletes and act as a reminder and reinforcement of applied strategies.

### 3 **Limitations**

4 Limitations of the current research should be acknowledged. Although we invested  
5 considerable effort to canvass opinion across a variety of different sports, our approach aimed  
6 to derive in-depth, rich data that explored the key attitudes towards, experiences of, and  
7 perceived effectiveness of a life-skills programme for high-performance young athletes from  
8 multiple perspectives rather than make global generalizations regarding attitudes and  
9 experiences common to all athletes that engaged in the life skills programme.

### 10 **Conclusion**

11 The present study adopted a qualitative approach to study the attitudes towards,  
12 experience of and perceived effectiveness of a life skills programme for high-performance  
13 young athletes from multiple perspectives. The testimonies of participants involved in the DC  
14 programme and associated facilitators, coaches, and parents indicated that the programme was  
15 perceived to be moderately successful in developing better engagement in training and in  
16 adopting time management and planning skills in contexts outside of sport such as homework  
17 and academic study. The programme also fostered the development of important skills and  
18 attitudes important for sport success such as goal setting, motivation, and having confidence  
19 and the mind set to succeed. However, the delivery of the programme could be improved such  
20 that firstly, participants remain engaged and secondly, that they gain practice in using the  
21 applied strategies that are taught in the workshops. To minimise overload, there needs to be  
22 less on information giving and theory and more on the implementation of applied techniques  
23 and strategies. Such programs could also make more use of elite WAIS athletes as facilitators  
24 as they seem to be very good at maintaining attention and are viewed as credible role-models.  
25 Such programmes also need to build follow-up support structures to ensure that the key skills  
26 delivered in the programme and concomitant behaviour changes are revisited by participants  
27 and put into long-term continuous practice. There also appears to be a need for additional  
28 practice and implementation sessions to maximise reinforcement of skills alongside the

1 workshops. One way to achieve continuity and reinforcement of material is to actively  
2 involve parents and coaches in the programme and foster a collective sense of purpose and  
3 accountability for making behavioural changes. Another strategy could be to use the internet  
4 and social media (e.g., Facebook) to promote key self-regulation skills such as self-  
5 monitoring and goal setting or to prompt discussion and experiences of dealing with stress or  
6 anxiety for example.

7



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