

# Self-efficacy and degree choice among sports coaching and physical education students

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## Background and rationale

The present study investigated self-efficacy perceptions among Level 1 Sports Coaching students and Level 1 Physical Education (P.E.) students. Consistent with previous research (Bandura, 1997), we hypothesised that self-efficacy would be associated with course selection, and that efficacy-expectations would be associated with performance accomplishments (Bandura, 1997). An outcome of the present study is to aid module development in P.E. and coaching modules, and thereby enhance the student experience by improving the quality of provision. Further, we suggest that findings from the study could also help identify competencies that incoming students should seek to acquire, and therefore, could help develop guidelines to appropriately market the different degree pathways.

Self-efficacy is defined as the levels of confidence individuals have in their ability to execute courses of action or achieve specific performance outcomes (Bandura, 1997). Self-efficacy perceptions are associated with the selection and persistence of behaviour in a range of different research settings (Bandura, 1997). It has been found to be predictive of academic performance (Lane, Devonport, Milton, & Williams, 2003; Lane, Devonport, & Horrell, in press), career choice (Lent & Hackett, 1987), job search (Errington, Lane, & Lane, in press; Moynihan, Roehling, LePine, & Boswell, 2003) and efforts to gain promotion (Lucas *et al.*, 1997). Self-efficacy is malleable, and therefore, intervention studies have attempted to enhance performance through increasing self-efficacy (see Devonport & Lane, 2004). Previous studies have indicated that self-efficacy derives from the cognitive appraisal of information from four sources: 1) performance accomplishments, 2) vicarious experiences, 3) verbal persuasion, and 4) the control of negative emotions. Bandura (1997) suggested that performance accomplishments were strongest source of self-efficacy as they are based on personal mastery experiences. Given the evidence showing the predictive capability of self-efficacy on behaviour, examination of the influence of self-efficacy on choice of degree subject to study represents a worthwhile line of enquiry. An examination of the extant literature revealed no studies that investigated relationships between self-efficacy and choice of academic course to study.

Investigation of associations between self-efficacy and choice of degree course becomes particularly important when the content of courses appear similar, but the career outcomes are very different. Previous research has suggested that student's interest in sport has a major influence in their decision to pursue a career in Physical Education and/or coaching (Laker & Jones, 1998). However, considerable debate exists on the nature of the tasks performed by teachers and coaches. Rog (1984) argued that: "*We often confuse the process of teaching and coaching with the career of teacher and coach*" (p.48). However, whilst the processes that occur in both P.E. teaching and sports coaching appear similar, the career pathways of a teacher and coach are extremely different (Drewe, 2000; Capel, 1998; 2000).

Therefore, although students wish to impart knowledge of sport to children, the decision to study P.E. or a coaching degree should be made with a clear understanding of the similarities and differences required to perform the tasks required for either role: something that is becoming increasingly important as courses become more vocationally relevant.

## **The research**

### **Pilot study**

A pilot study was conducted in order to develop contextually relevant tools to assess self-efficacy in physical education and coaching.

### **Participants and Procedure**

Volunteer participants were drawn from the students studying at Level 1 in either P.E. or coaching (N=60; PE  $n = 45$  full-time,  $n = 2$  part-time; coaching  $n = 12$  fulltime,  $n = 1$  part time). Students were asked to participate in research to explore issues related to teaching and / or coaching. They were informed that participation was voluntary, there were no right or wrong answers, and that responses would be treated as confidential.

### **Measure of self-efficacy and the sources of self-efficacy**

Given the situational specific nature of self-efficacy, researchers typically develop measures that are specific to the research environment under consideration (see Bandura, 1997; Lane *et al.*, 2003, in press). A questionnaire was developed to assess self-efficacy towards competencies needed for success in coaching and/or teaching and the four sources of self-efficacy. The questionnaire was piloted using quantitative and qualitative methods. Forty-nine Level 1 students completed the questionnaire before a lecture in order to check the comprehensibility of items. A focus group comprising 10 students (P.E.,  $n = 5$ , Coaching,  $n = 5$ ) provided feedback on their thoughts and feelings when answering the questionnaire. Analysis of focus group data provided indicated that the students were able to complete the questionnaire and that it reflected their experiences prior to the commencement of their degree. Changes were made to the qualitative section of the questionnaire to collect information regarding previous teaching or coaching qualifications. It is argued that the pilot study acted as a validity check on the resultant measure. A 26-item questionnaire went forward to the next stage of the research.

## **The main study**

### **Participants and procedure**

Fifty-eight (Male  $n = 36$ , Female,  $n = 22$ ) students completed the 26-item measure (a response rate of 80% of all students on the two courses). The majority of the students were full-time and 90% had obtained a formal teaching or coaching qualification prior to entry. Separate focus group interviews lasting 30 minutes in duration were conducted with five students from each degree. The interview schedule enabled exploration of issues related to the students' responses to issues raised in the questionnaire. The interview was transcribed and analysed by the research team to provide an insight into the nature and sources of self-efficacy.

## **The outcomes**

### **Quantitative results**

Quantitative data were analysed by exploring the underlying structure through the use of factor analysis (Table 1), and correlating constructs (Table 2) identified through factor analysis. Factor analysis results revealed seven factors that accounted for 76% of the variance in scores. As Table 1 indicates, factor 1, comprised items from a range of different sources including observing successfully coached/taught sessions, being encouraged by peers, and

personal experiences. It was labelled 'experience' due to the multifaceted nature of the factor. Factor 2 comprised self-efficacy estimates towards teaching and coaching. Factor 3 comprised items that could be described as drawing encouragement from others and was labelled 'encouragement'. Factor 4 comprised information related to successful experiences, although some of these experiences were from verbal persuasion. Factor 5 comprised items that described watching effective teaching/coaching; factor 6 comprised items describing personal ability, and factor 7 comprised items related to the control of emotions. Collectively, factor analysis results lend some support to the independence of self-efficacy from the sources of self-efficacy, although findings that show multifaceted factors show the individual nature in which information from memory is stored.

Correlation results indicated that all six factors correlated significantly with self-efficacy, although experience showed the strongest relationship. The direction of relationships are consistent with self-efficacy theory (Bandura, 1997); successful experiences, watching success, being told that you could be successful and being able to control negative emotions were associated with self-efficacy. It should be noted that mean scores (see Table 2) indicate that students rated observation, emotional control, and personal ability significantly higher than experience. Therefore, although experience showed the strongest relationship with self-efficacy, it was not the most prevalent source of self-efficacy experienced by participants.

## Qualitative results

Focus group interview results indicated that students' responses tended to suggest that they attached greater relevance to observation and encouragement, a finding consistent with quantitative results. In contrast to the central predictions made in self-efficacy theory (Bandura, 1997), students in the interviews did not appear to base their decisions on personal mastery experiences suggesting that they were entering a degree pathway with limited experience of leading teaching or coaching sessions. They were however influenced by the feedback provided from a variety of sources, in addition to the direct observation of others performing their chosen role.

- ".....and then with teachers, obviously the main thing that I do with teachers and coaches above me is to try and learn from them, try and learn as much as I can."
- "She was a good teacher so I would always aspire to be as good".
- "I've always enjoyed sport and by watching P.E. teachers in previous years it has made me want to become a teacher in P.E."
- "Yeah, I've had positive encouragement from people I've worked with and people I have coached. I've had positive and negative feedback of both which have been beneficial, sort of why I joined last year",
- "I did have a teacher at the end of my sixth form saying I would be a good teacher."

**Table 1. Rotated factor analysis among sources of self-efficacy and self-efficacy measures**

|   | F1    | F2    | F3    | F4    | F5    | F6    | F7    |
|---|-------|-------|-------|-------|-------|-------|-------|
| <b>Experience</b>   |       |       |       |       |       |       |       |
| I have observed a number of successfully taken sports coaching sessions   |       | .86   |       |       |       |       |       |
| Observation of one or more individuals has influenced my desire to coach.   |       | .83   |       |       |       |       |       |
| Qualified sports coaches have personally encouraged me to believe that I will be able to take coaching sessions successfully. |       | .79   |       |       |       |       |       |
| My peers have personally encouraged me to believe that I will be able to take coaching sessions successfully.                 |       | .71   |       |       |       |       |       |
| I have experience of planning coaching sessions.  |       | .63   |       |       |       |       |       |
| I have had previous experience of sports coaching sessions that resulted in positive outcomes.                                |       | .62   |       |       |       |       |       |
| I have observed coach(s) successfully manage and control large groups of people.  |       | .62   |       |       |       |       |       |
| <b>Self-efficacy</b>  |       |       |       |       |       |       |       |
| I am confident that I can work with a variety of abilities in physical activities.  |       | .72   |       |       |       |       |       |
| I am confident that I can work with skilled performers in one or two physical activities.                                     |       | .71   |       |       |       |       |       |
| I am confident that I can enhance the performance of skilled individuals in one or two physical activities.                   |       | .69   |       |       |       |       |       |
| I feel I have the level of subject knowledge to coach in one or two physical activities.                                      |       | .68   |       |       |       |       |       |
| I feel I have the level of subject knowledge to teach a range of physical activities.   |       | .67   |       |       |       |       |       |
| I am confident that I can enhance the overall personal development of individuals in physical activities.                     |       | .57   |       |       |       |       |       |
| <b>Encouragement</b>  |       |       |       |       |       |       |       |
| Qualified teachers have personally encouraged me to believe that I will be able to teach PE successfully.                     |       |       | .83   |       |       |       |       |
| My peers have personally encouraged me to believe that I will be able to teach PE successfully.                               |       |       | .73   |       |       |       |       |
| Observation of one or more individuals has influenced my desire to teach.   |       |       | .72   |       |       |       |       |
| <b>Successful experience</b>  |       |       |       |       |       |       |       |
| I have many memories of people telling me I was a successful performer in PE lessons.   |       |       |       | .79   |       |       |       |
| I have had previous experience of teaching PE in schools resulting in positive outcomes.                                      |       |       |       | .70   |       |       |       |
| I have many memories of people telling me I was a successful performer in sports coaching sessions.                           |       |       |       | .59   |       |       |       |
| I have experience of planning PE lessons.   |       |       |       | .57   |       |       |       |
| <b>Observation</b>  |       |       |       |       |       |       |       |
| I have observed PE teacher(s) successfully manage and control large groups of people.   |       |       |       |       | .88   |       |       |
| I have observed a number of successfully taught PE lessons  |       |       |       |       | .73   |       |       |
| <b>Ability</b>  |       |       |       |       |       |       |       |
| I consider myself to be a high level performer in one or two physical activities.   |       |       |       |       |       | .86   |       |
| I consider myself able to perform to an above average standard in a range of physical activities.                             |       |       |       |       |       | .68   |       |
| <b>Emotions</b>   |       |       |       |       |       |       |       |
| I am confident that I can control my emotions when teaching physical activities to others.                                    |       |       |       |       |       |       | .82   |
| I am confident that I can control my emotions when coaching physical activities to others.                                    |       |       |       |       |       |       | .79   |
| Eigenvalue  | 9.00  | 2.71  | 2.26  | 1.82  | 1.49  | 1.26  | 1.24  |
| Percentage of variance  | 34.61 | 10.45 | 8.70  | 6.98  | 5.74  | 4.86  | 4.75  |
| Accumulated percentage variance   | 34.61 | 45.06 | 53.76 | 60.74 | 66.48 | 71.34 | 76.08 |

**Table 2.** Relationships between self-efficacy and the sources of self-efficacy

|                          | <i>M</i> | <i>SD</i> | 1    | 2    | 3    | 4   | 5   | 6   | 7 |
|--------------------------|----------|-----------|------|------|------|-----|-----|-----|---|
| 1. Self-efficacy         | 2.87     | 0.69      | 1.00 |      |      |     |     |     |   |
| 2. Experience            | 2.87     | 0.94      | .57* | 1    |      |     |     |     |   |
| 3. Successful experience | 2.75     | 0.94      | .43* | .54* | 1    |     |     |     |   |
| 4. Observation           | 3.14     | 0.85      | .38* | .22  | .41* | 1   |     |     |   |
| 5. Ability               | 3.05     | 0.76      | .43* | .42* | .20  | .00 | 1   |     |   |
| 6. Emotions              | 3.18     | 0.72      | .44* | .35* | .16  | .14 | .25 | 1   |   |
| 7. Encouragement         | 2.80     | 0.98      | .43* | .34* | .52* | .38 | .21 | .17 | 1 |

\*  $P < .01$ 

## Benefits

The aim of the present study was to investigate self-efficacy and the sources of self-efficacy among sports coaching and physical education students. Factor analysis results indicate that participants conceptualised self-efficacy, vicarious experiences, persuasion, and the control of emotions in line with self-efficacy theory (Bandura, 1997). However, the most influential factor in terms of relationships with self-efficacy comprised experiences that combined personal mastery experiences and persuasion. Qualitative and quantitative results indicated that persuasion is the most prevalent source of self-efficacy, which according to self-efficacy theory (Bandura, 1997) is a fragile source of self-efficacy. Efficacy enhanced by sources of persuasion form hypotheses of competence that are tested when an individual attempts to perform the task. Given participants had limited experiences of mastery experiences, it is suggested that efficacy expectations will be modified following personal experiences of coaching or teaching. It is suggested that, therefore, there is potential to tailor the students' learning experiences to develop self-efficacy in the areas required for successful completion of these degree courses, and also, prepare them for future vocations. We argue that students should be made aware of skills and competencies required to perform the job of either a teacher or coach, and such information could be added to course prospectuses. This could provide the student with a greater knowledge of how to match their competencies against the course requirements. Recent research has demonstrated the importance of teaching students vocationally relevant skills. Errington *et al.* (in press) found that efficacious students obtained jobs following fewer interviews. Findings from the present study show students have relatively few mastery experiences of coaching and teaching. We argue that it is incumbent that course developers ensure students experience a range of different experiences, and careful planning is needed to ensure students experience success in the initial stages of learning

## Future developments

We suggest that future research should explore changes in self-efficacy over the three Levels of a degree. Given the relative absence of personal mastery experience, future research should develop specific sessions designed to enhance specific skills and assess the influence of such sessions on self-efficacy. A second line of investigation that should be pursued is to replicate findings from the present study to a different sample. Replication of research is infrequently conducted, but highly important if research is to inform on practice. If module leaders are to use findings from the present study to alter their modules, the evidence for such decisions should be cross validated.

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