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Assessment and monitoring practices of Australian fitness professionals

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ABSTRACT

Objectives: Assessment and monitoring of client health and fitness is a key part of fitness professionals' practices. However, little is known about prevalence of this practice. This study describes the assessment/monitoring practices of a large sample of Australian fitness professionals.
Design: Cross-sectional.
Methods: In 2014, 1206 fitness professionals completed an online survey. Respondents reported their frequency (4 point-scale: [1] 'never' to [4] 'always') of assessment/monitoring of eight health and fitness constructs (e.g. body composition, aerobic fitness). This was classified as: (i) 'high' ('always' assessing/monitoring ≥5 constructs); (ii) 'medium' (1–4 constructs); (iii) 'low' (0 constructs). Classifications are reported by demographic and fitness industry characteristics. The odds of being classified as a 'high assessor/monitor' according to social ecological correlates were examined using a multiple-factor logistic regression model.
Results: Mean age of respondents was 39.3 (±11.6) years and 71.6% were female. A total of 15.8% (95% CI: 13.7%–17.9%) were classified as a 'high' assessor/monitor. Constructs with the largest proportion of being 'always' assessed were body composition (47.7%; 95% CI: 45.0%–50.1%) and aerobic fitness (42.5%; 95% CI: 39.6%–45.3%). Those with the lowest proportion of being 'always' assessed were balance (24.0%; 95% CI: 24.7%–26.5%) and mental health (20.2%; 95% CI: 18.1%–29.6%). A perceived lack of client interest and fitness professionals not considering assessing their responsibility were associated with lower odds of being classified as a 'high assessor/monitor'.
Conclusions: Most fitness professionals do not routinely assess/monitor client fitness and health. Key factors limiting client health assessment and monitoring include a perceived lack of client interest and professionals not considering this their role.

1. Introduction

Physical inactivity increases the risk of poor cardiometabolic, pulmonary, musculoskeletal, functional and mental health[1] and also risk of colon cancer and breast cancer.[2] In 2012, physical inactivity directly contributed to 9% of global mortality.[3] Recent estimates suggest that in the U.S[4] and Australia[5] <20% of adults meet the full World Health Organization's (WHO) 2010 'Global Recommendations on Physical Activity for Health' (i.e. ≥150 min/week of moderate-to-vigorous-intensity aerobic physical activity and ≥2 sessions/week of strength training).[6]

The 2010 WHO 'Global Strategy on Diet, Physical Activity and Health' highlighted the need for a comprehensive approach to support physical activity, stating that: "*Increasing physical activity is a societal, not just an individual problem. Therefore it demands a population-based, multi-sectoral, multi-disciplinary, and culturally relevant approach*".[7] Based on this, fitness professionals are community-based professionals who could potentially play a key role in community-wide physical activity promotion strategies.[8] Within the fitness industry, there are different types of fitness professionals, including personal trainers, group instructors, gym instructors and Yoga, Pilates, Aqua trainers. With over 280,000

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fitness professionals in the U.S workforce[9] and ~30,000 in the Australian workforce,[10] there is potential for a substantial population reach. Evidence from short-term exercise interventions has shown that that fitness professionals may increase training session adherence,[11] muscle strength[12] and exercise intensity.[13] However, a recent review showed that apart from use in small-scale interventions, fitness professionals have been largely under-utilised in broader public health promotion.[14]

The work practices of fitness professionals may differ depending on the defined role. For example, personal trainers may have a greater emphasis on an individual client's health and fitness when compared to group instructors. Nevertheless, key academic texts state that it is important for fitness professionals to assess and monitor client health and fitness.[15,16] Examples of health and fitness assessments include: aerobic fitness; body composition; muscle strength; and flexibility.[15,16] Through this process, fitness professionals gather important information about their client's initial levels of fitness and health, which is essential to assist with optimal program design and to monitor client progress. Assessment and monitoring might also have a positive effect on exercise adherence. Systematic reviews of behaviour change interventions suggest that monitoring of progress, particularly in relation to an individual's goals, improves physical activity adherence.[17]

Although studies have described distribution and location of fitness professionals within the community,[18] common modes of knowledge translation[19] and importance of health science education,[20] little is known about the practices of assessment and monitoring of client health and fitness. Developing an understanding of these practices is important because such insights can facilitate improvements in the quality of the education and training of fitness professionals, thereby increasing their impact on promoting physical activity within the community.[8]

The aims of this study were to examine, among a large sample of Australian registered fitness professionals:

(i) Fitness and health assessment and monitoring practices;
(ii) Whether practices differed by sociodemographic (e.g. sex, age,) or fitness industry-related characteristics (e.g. time in the industry, qualification); and
(iii) The individual, social, policy and physical environmental influences on assessment and monitoring practices.

2. Methods

The study protocol was approved by the Victoria University Ethics Committee (Ref: HRE 14-070). The recruitment methods used in this study has been described in detail elsewhere.[18] A convenience sample of fitness professionals was recruited via a research collaboration with the peak health and fitness industry association in Australia, Fitness Australia (https://fitness.org.au). Fitness Australia provides a range of support services to over 30,000 Registered Personal Trainers, Registered Fitness Instructors, fitness businesses and suppliers Australia-wide. On June 15th, 2014, an email was sent by Fitness Australia to invite registered fitness industry professionals to complete an online survey. Two email reminders were sent during the subsequent four weeks. In total, 9100 fitness professionals opened the email and 1980 opened the survey link (21.8% response rate). Overall, 1206 fitness professionals fully completed the survey (60.1% response rate for those who opened the online survey).

Sociodemographic (e.g. sex, age, and living region) and fitness industry-related characteristics (e.g. time as a fitness industry professional, fitness industry role) were assessed and categorised consistent with previous study reporting from this sample[18] and industry-based classifications of these characteristics.[21] See Supplementary Table 1 for details.

The frequency of assessment and monitoring of eight individual fitness and health constructs was examined, these were body composition, aerobic fitness, muscle strength, muscle endurance, functional capacity, flexibility, balance and mental health. Constructs were identified after a review of the relevant fitness instruction literature.[15,16,22] Assessment practices were examined by asking participants to respond to questions such as '*When a new client begins under your instruction, in your current role, do you assess their aerobic fitness levels?*'. This question was asked for each of the eight constructs. To aid in interpretation, examples were given. For example, "*Do you assess their functional capacity*? (*e.g. 30 s chair sit-stand test, 2 min walk test)*' Response options were provided on a categorical 4-point scale: (1) '*always*', (2) '*sometimes*', (3) '*rarely*' and (4) '*never*'. If the response was '*always*' or '*sometimes*', participants were asked a follow-up question about the frequency of monitoring of that construct, for example; '*Once a client has been training with you, in your current role, do you monitor their flexibility levels every 6–12 weeks?*'. If the response to the questions about assessment was '*never*' or '*rarely*', the survey skipped to the next question asking whether they assessed the subsequent construct, because monitoring cannot take place without initial assessment.

Depending on the proportion of respondents who reported '*always*' assessing and monitoring the 8 constructs, a classification was developed classifying professionals into: (i) 'high assessor/monitor'; (ii) 'medium assessor/monitor'; and (iii) 'low assessor/monitor'. To be classified as a 'high assessor/monitor' respondents had to report 'always' assessing and monitoring five or more constructs. To be classified as 'medium assessor/monitor' respondents had to report '*always*' assessing and monitoring one to four constructs. To be classified as a 'low assessor/monitor' a respondent had to not meet either of the previous two criteria. Our decision to categorise a 'high assessor/monitor' as a professional who '*always*' examined five or more constructs was arbitrary and is based on looking at more than half of the constructs under study. We discuss the strengths and limitations of this approach in the discussion.

To examine potential factors associated with assessment and monitoring, respondents were asked to report their level of agreement with 13 statements. Constructs from the Social Ecological Model were used to develop these items,[23] with statements encompassing the individual (e.g. lack of time), social (e.g. modelling), policy (e.g. supervisor support) and physical environmental factors (e.g., limited space). Supplementary Table 2 shows a complete list of statements. Response options were: (1) '*strongly agree*'; (2) '*agree*'; (3) '*neutral*'; (4) '*disagree*'; (5) '*strongly disagree*'. For the purpose of the analysis, response options were then collapsed into two categories: (1) '*agree*' (collapsing '*strongly agree*' and '*agree*') and (2) '*disagree/neutral*' (collapsing '*strongly disagree*', '*disagree*' and '*neutral*').

We assessed test-retest reliability of the items assessing frequency of client fitness and health assessment and monitoring; and social ecological correlates of assessment and monitoring. In this analysis a sub-sample of 425 participants were invited to complete an abbreviated, repeat survey 14 days (minimum) after the original survey. A total of 211 responded, (response rate = 49.6%, 73% female, mean age = 27.1 ± 10.8 years)

Data were analysed using IBM SPSS Statistics 22 (SPSS Inc. an IBM Company, Chicago, IL, USA). Descriptive statistics were used to describe the characteristics of the overall sample and by categories for the sociodemographic variables (Supplementary Table 1). Appropriate tests of difference were applied to continuous (i.e. independent t-tests) or categorical (i.e. chi-squared test) data. For all statistical tests, a p-value of <0.05 was used to indicate significance.

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