

The Assessment of Physiotherapy Practice (APP) is a reliable measure of professional competence of physiotherapy students: a reliability study

Megan Dalton^{1,3}, Megan Davidson² and Jennifer L Keating¹

¹Department of Physiotherapy, Monash University, ²School of Allied Health, La Trobe University, ³Griffith University Australia

Question: What is the inter-rater reliability of the Assessment of Physiotherapy Practice (APP) instrument, and what is the error associated with individual scores? **Design:** Cross-sectional inter-rater reliability study. Thirty pairs of clinical educators each assessed one student after observing student practice over a 5-week clinical placement. **Participants:** Sixty clinical educators from five Australian universities formed 30 independent pairs of assessors. **Outcome measures:** Each pair completed two independent assessments of one student, providing 60 completed APP assessments and an associated Global Rating Scale score for analysis. **Analysis:** Correlational coefficients and measurement error expressed in APP scale units were computed to provide a comprehensive analysis of the likely utility of APP scores and to enable score and change score interpretation. **Results:** Percentage of agreement between assessors for each item ranged from 56% (Item 19, evidence-based practice) to 83% (Item 20, risk management) and across all items averaged 70% (SD 7). The ICC(2,1) was 0.92 (95% CI 0.84 to 0.96) for the total APP score and 0.72 (95% CI 0.50 to 0.86) for the Global Rating Scale. The standard error of measurement for the total score (scale width 0–80) was 3.2 APP points and the MDC₉₀ was 7.86 representing 9% of the scale width. Bland-Altman analyses identified no systematic differences between raters. **Conclusion:** Clinical educators demonstrated a high level of reliability when using the APP instrument to assess physiotherapy students' level of professional competence in workplace-based practice. [Dalton M, Davidson M, Keating JL (2012) The Assessment of Physiotherapy Practice (APP) is a reliable measure of professional competence of physiotherapy students: a reliability study. *Journal of Physiotherapy* 58: 49–56]

Key words: Educational measurement, Professional competence, Clinical competence, Physical therapy (Specialty), inter-rater reliability, intraclass correlation coefficient, Physiotherapy

Introduction

The Assessment of Physiotherapy Practice (APP) is a 20-item instrument covering professional behaviour, communication, assessment, analysis and planning, intervention, evidence-based practice, and risk management. Each item is assessed on a 5-level scale from 0 (Infrequently/rarely demonstrates performance indicators) to 4 (Demonstrates most performance indicators to an excellent standard). A rating of 2 (Demonstrates most performance indicators to an adequate standard) indicates that the minimum standard for an entry-level physiotherapist has been met. The total APP score ranges from 0 to 80. Rasch analysis of APP scores indicated that the data had adequate fit to the chosen measurement model (Rasch Partial Credit Model), the Person Separation Index demonstrated the scale was internally consistent discriminating between four groups of students with different levels of professional competence, the items were targeting the intended construct (professional competence) and the instrument demonstrated unidimensionality (Dalton et al 2011). The APP has been widely adopted by entry-level physiotherapy programs in Australia and New Zealand.

Given the high stakes of summative assessments of clinical performance, assessment procedures should not only be feasible and practical within the clinical environment, but also demonstrate sufficient reliability and validity for the purpose (Baartman et al 2007, Epstein and Hundert 2002, Roberts et al 2006). An instrument that yields scores

with inadequate consistency in different circumstances, when the underlying construct (in this case, professional competence) is unchanged, would be of limited value no matter how sound other arguments are for its validity. In the context of assessment of workplace performance, reliability is the extent to which assessment yields relatively consistent results across occasions, contexts and assessors (Baartman et al 2007). Reliability is dependent on the characteristics of the test, the conditions of administration, the group of examinees and the interaction between these factors (Streiner and Norman 2003, Wolfe and Smith 2007). While repeated, blinded testing of the same student under the same conditions in the authentic practice environment by the same assessor is not feasible in performance-based assessment, the consistency with which different assessors rate the performance of different students (inter-rater reliability) is achievable. Since inter-rater reliability

What is already known on this topic: The Assessment of Physiotherapy Practice (APP) is a valid measure of the clinical competence of physiotherapy students. It covers professional behaviour, communication, assessment, analysis, planning, intervention, evidence-based practice and risk management.

What this study adds: Clinical educators demonstrate a high level of reliability using the APP to assess students in workplace-based practice.

Table 1. Participant and placement characteristics.

Characteristic	University 1	University 2	University 3	University 4	University 5
Program	4-year bachelor degree	4-year bachelor degree	4-year bachelor degree	4-year bachelor degree	5-year double degree
Year of study	3	3	3/4	3	5
Students, n male:female	1:3	3:3	2:4	3:2	3:6
Student age (yr), mean (SD)	22 (3)	22 (3)	22 (3)	23 (3)	23 (3)
Clinical educators, n male:female	3:5	4:8	5:7	4:6	6:12
Clinical educator age (yr), mean (SD)	39 (9)	37 (8)	33 (9)	36 (9)	35 (9)
Facility type	Hospital	Hospital	Hospital	Hospital	Hospital
Clinical area/s	Orthopaedics (inpatients), Musculoskeletal (outpatients)	Cardiorespiratory, Paediatrics	Neurological rehabilitation, Community health	Cardiorespiratory, Gerontology rehabilitation	Orthopaedics (inpatients), Musculoskeletal (outpatients), Paediatrics

contains all the sources of error contributing to intra-rater reliability, plus differences that arise in decisions made by different observers, demonstration of adequate inter-rater reliability is sufficient evidence of adequate intra-rater reliability (which is typically more reliable) (Streiner and Norman 2003, Wilson 2005).

Assuming that there is a true value for professional competence, two sources of error in ratings are of interest. One is the random variation in scores when the same underlying professional competence is assessed by independent assessors; the other is the systematic variation in scores. The latter may result, for example, from assessors with different expectations of entry level competence for individual items on the APP, or from different circumstances within which the student is assessed that enable or restrict a view of student competence. Systematic variation is of interest because it may be possible to trace the source of errors of this nature and address them with methods such as standardised training of assessors, or adjustment of grades for areas of practice where higher level skills are typically expected (eg, critical care wards). Random errors are, by their nature, unpredictable. They need to be estimated and allowed for in score interpretation (Rankin and Stokes 1998).

The research question was therefore:

What is the inter-rater reliability of the APP instrument, and what is the error around individual scores?

Method

This reliability study was conducted in the authentic practice environment to investigate the error in APP measurements in the typical application of the instrument (Baartman et al 2006).

Design

The inter-rater reliability trial was a cross-sectional study designed to replicate authentic assessment procedures.

Sixty clinical educators formed 30 independent pairs of assessors. Since not all physiotherapy education programs typically utilised shared supervision (ie, two supervisors sharing supervision of a student), five programs where this routinely occurred were identified from the twelve physiotherapy entry-level programs in Australia and clinical educators were invited to participate in the trial.

Replication of authentic practice meant that the assessors provided educational supervision to the students during the clinical placement and then each student (n = 30) was assessed independently by their unique pair of educators using the APP at the end of a five-week clinical placement block. The blocks were scheduled across one university semester. Educators completed the APP and also gave students a rating of overall performance, on a Global Rating Scale of *not adequate*, *adequate*, *good*, or *excellent*. Students, working with supervision, provided physiotherapy services during this placement on a full-time basis (32–40 hours/week). Approval for the study was obtained from the human ethics committees of each of the five participating universities.

Participants

Students enrolled in entry-level physiotherapy programs from five universities in Australia were assessed by educators using the APP on completion of a five-week full-time clinical placement block. Recruitment procedures optimised representation of physiotherapy clinical educators by location (metropolitan, regional/rural, and remote), clinical area of practice, years of experience as a clinical educator, and organisation (private, public, hospital based, community based, and non-government). The placements occurred during the last 18 months of the students' physiotherapy program and represented diverse areas of physiotherapy practice including musculoskeletal, cardiorespiratory, neurological, paediatric, and gerontological physiotherapy.

Download English Version:

<https://daneshyari.com/en/article/5864326>

Download Persian Version:

<https://daneshyari.com/article/5864326>

[Daneshyari.com](https://daneshyari.com)