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# Pain Science Education Use & Knowledge by Australian Private Practice Physiotherapists: A Survey

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## BACKGROUND:

Australian private practice physiotherapists play a critical role in providing guideline-driven care for pain management, including pain science education (PSE).

**PAIN SCIENCE EDUCATION** an evidence-based intervention that aims to alter unhelpful/inaccurate knowledge & beliefs about pain, ultimately reconceptualising an individual's understanding of their pain [1]

Data on PSE knowledge and application among Australian private practice physiotherapists are lacking. Gaining insight into physiotherapists' PSE knowledge and use is critical to inform training and other strategies to promote effective, real-world provision of PSE.

## AIM:

To investigate physiotherapists' PSE utilisation in private practice, pain science knowledge, understanding & application of key PSE concepts, and awareness of educational strategies. To examine variations based on work location (rural/remote vs. metropolitan), PSE training type, and years of clinical experience.

## METHODS:

- Australia-wide online survey via Qualtrics
- Private practice physiotherapists with PSE training
- Recruitment:** email campaigns, social media, ads, websites, newsletters

**Outcomes:** pain science knowledge (rNPQ: revised Neurophysiology of Pain Questionnaire); agreement, understanding, ease of explaining PSE concepts (Likert scales); educational strategies (open-text responses)

**Analysis:** descriptive; univariable & multivariable; linear & binary logistic regressions

References: 1) Moseley GL & Butler DS, PAIN 2015.

## RESULTS:

**278 private practice physiotherapists**

- 63% female
- 39 (12) mean (SD) age, yrs
- 57% uni + course PSE trained
- 11% physio trained outside Aus
- 15 (12) mean (SD) clinical experience, yrs
- 37% rural or remote work location

**PSE USE:** Physiotherapists reported: (n=278)  
96% had used PSE in current/most recent private practice work  
61% (mean) of their patients received PSE on a typical clinical day  
Increased reported use for Course + Uni training (vs Uni only;  $\beta=8.943$ ,  $p=0.047$ )

## PAIN SCIENCE KNOWLEDGE: revised Neurophysiology of Pain Questionnaire (rNPQ) (n=278)

Mean (SD) score [best score 13] = **10.4 (2.2)**  
Best score (13/13), n (%) = 54 (19.4)  
Most correct scores for item, n (%) = 265 (95.3) "When you injure yourself, the environment that you are in will not affect the amount of pain you experience"<sup>(false)</sup>  
Least correct scores for item, n (%) = 151 (54.3) "When part of your body is injured, special pain receptors convey the pain message to your brain"<sup>(false)</sup>  
Higher rNPQ scores for Course only ( $\beta=1.337$ ,  $p<0.001$ ) & Course + Uni training (vs Uni only;  $\beta=0.825$ ,  $p=0.004$ )

## PAIN SCIENCE EDUCATION CONCEPTS... (n=276-4)

**Level of agreement with accurate PSE key concepts:** Overall mean rating\* per participant (SD) = 4.26 (0.50)  
**Agreement with inaccurate PSE key concepts:** Agreement with  $\geq 1$  incorrect concept, n (%) = 84 (30.4)  
**Self-reported level of understanding of accurate PSE key concepts:** Overall mean rating\* per participant (SD) = 4.12 (0.56)  
**Ease of explaining accurate PSE key concepts:** Overall mean rating\* per participant (SD) = 3.44 (0.66)

Associated with rNPQ performance ( $\beta=0.077$ ,  $p<0.001$ )  
Greater in Uni+ Course training ( $\beta=0.270$ ,  $p<0.001$ )  
Greater in metro ( $\beta=0.256$ ,  $p=0.002$ )

Rated: **most beneficial & easiest to explain** PSE concept  
"All pain is real no matter what is causing it"  
Rated: **least beneficial** PSE concept  
"Pain is a protective feeling"  
Rated: **hardest to explain** PSE concept  
"Learning how pain works is an effective treatment"

\*5-point Likert scales; higher=better

## KNOWLEDGE OF EDUCATIONAL STRATEGIES: (n=250)

41% Listed an educational strategy  
79% Mistakenly cited a PSE resource  
19% reported analogies or metaphors (most reported)

## CONCLUSION:

PSE training via professional development courses was associated with superior PSE use and knowledge underscoring the importance of up-to-date continuing education, potentially supplemented by clinical experience. Limited grasp on educational strategies highlights the need for PSE training to prioritise a deeper understanding of educational theory to aid PSE implementation.