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Career intentions and satisfaction influences in early career Australian physiotherapists

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ABSTRACT

Background: The current workforce does not meet the demand for physiotherapy services in Australia. Future demand is predicted to expand driven primarily by the aging population. Previous research describes significant attrition and short career intentions of junior physiotherapists.

Objective: This study explored factors associated with physiotherapy graduates’ early career intentions and satisfaction.

Method: Four cohorts of student physiotherapists completed two online surveys designed specifically for this study assessing their immediate and future career intentions and satisfaction. Surveys were completed after undergraduate training (Student Survey) and 2 years later (Practitioner Survey). Question formats included single or multiple select, Likert scale, and free-text responses. Responses were analyzed via descriptive statistics and content and relational analysis.

Results: Despite most early career practitioners (83%) reporting career satisfaction, 27% intended to pursue long-term physiotherapy careers (>20 years) and 15% intended to work for 5 years or less. Fewer (11%) reported a longer career intention and 26% a shorter career intention compared to their student survey. Extrinsic occupational factors, such as support, were mentioned as influential in increasing intended future career length since course completion.

Conclusion: This study found some evidence of factors contributing to shorter career intentions of early career physiotherapists. Specific support of early career physiotherapists may encourage longer career intentions and help build future workforce capacity.

Introduction

Globally, there is a need for action to sustain an adequate healthcare workforce capable of meeting the demand for health services (World Health Organisation, 2022). With an associated chronic disease burden, the growing and aging population is anticipated to perpetuate this demand (Liu et al., 2017; Prince et al., 2015). Physiotherapists play a vital role in managing and rehabilitating clients with chronic diseases, yet there are current and anticipated shortages of clinicians reported around the world (Chartered Society of Physiotherapy, 2018; Childs et al., 2022; Rodès et al., 2021). In Australia, such shortages are particularly evident in areas of aged care and where specialized skills are required (National Skills Commission Australian Government, 2021). While there are increasing numbers of graduates from physiotherapy training programs in Australia, there are concerns that workforce capacity will remain inadequate (Australian Physiotherapy Association, 2022; Pretorius, Karunaratne, and Fehring, 2015).

Loss of physiotherapists from the workforce in their first 10 years of practicing contributes to these workforce shortages (Australian Physiotherapy Association, 2022; Health Workforce Australia, 2014). Surveys of Australian physiotherapy graduates exploring employment characteristics and career intentions report that less than one-quarter of respondents (16% and 24%, respectively) anticipate a long-term physiotherapy career (i.e. >20 years) (Bacopanos and Edgar, 2016; Mulcahy, Jones, Strauss, and Cooper, 2010). The reported deterrents of intention to leave the profession include lack of career progression, poor remuneration, the need for a career change, family commitments, low job satisfaction, and burnout (Arkwright, Edgar, and Debenham, 2018; Bacopanos and Edgar, 2016; Burri et al., 2022; Mulcahy, Jones, Strauss, and Cooper, 2010).
While these reasons may also incorporate temporary career breaks, such as having a family, the period of reentering and re-registering in the profession has been described as a barrier to returning to practice (Pretorius, Karunaratne, and Fehring, 2015).

Research regarding occupational satisfaction has included both overall career and more specific job satisfaction, with job satisfaction recognized as the most extensively studied occupational attitude (Judge, Zhang, and Glerum, 2021). Job satisfaction has been associated with the broader outcomes of career satisfaction and commitment along with specific job behaviors, including task performance and turnover intentions (Bell and Sheridan, 2020; Huo and Jiang, 2021; Laschinger, 2012; Rubenstein, Eberly, Lee, and Mitchell, 2018; ten Hoeve, Brouwer, and Kunnen, 2020; Zhu, Kim, Milne, and Park, 2020). Low job satisfaction ratings have been reported with the occupational syndrome of burnout and intentions to leave specific employment or professions (Burri et al., 2022; Leiter and Maslach, 2016). Furthermore, a recent study of new graduate physiotherapists found that higher job satisfaction was associated with higher levels of individual resilience and lower levels of burnout (Evans et al., 2022). Occupational therapists and nurses have reported similar relationships between job satisfaction and burnout (Boamah, Read, and Spence Laschinger, 2017; Scanlan and Hazelton, 2019). Improving our understanding of the factors influencing the development of job and career satisfaction, particularly during the early career years, remains an important area to explore to increase retention in the physiotherapy workforce.

The two-factor (motivator-hygiene) model of motivation to work developed by Herzberg (2003) and Herzberg, Mausner, Snyderman, and Snyderman (1993) has been applied to consider factors influencing satisfaction and retention in allied health research (Campbell, McAllister, and Eley, 2012; Lee and Lee, 2022; Mak, March, Clark, and Gilbert, 2013; Wilson, 2015). This model was chosen because it enables multiple perspectives on a person’s judgments of their working life. According to this model, job satisfaction and dissatisfaction have different determinants. That is, they are not a direct continuum. Job satisfaction and motivation are associated primarily with intrinsic occupational factors influenced by an individual’s perception of their job. This includes achievement, recognition, stimulation from the job itself, responsibility, and opportunities for growth and enhancement (Herzberg, 2003). If these factors are absent, the model suggests that an employee is more likely to experience no satisfaction rather than dissatisfaction with their employment. Job dissatisfaction results when extrinsic factors (i.e., external to an individual’s perception of their employment) are lacking, such as: organizational policies; salary; working conditions; interpersonal relationships; and supervision (Herzberg, 2003). If present, these extrinsic elements are more likely to prevent dissatisfaction rather than directly cause satisfaction. Applied to contemporary healthcare practice, the model can improve our understanding of key factors that contribute positively to satisfaction and negatively to dissatisfaction. Understanding both aspects may inform strategies to promote early career motivation, satisfaction, and retention of physiotherapists. The aim of this study was to explore via the two-factor model of motivation to work, those factors associated with physiotherapy graduates’ early career choices, intentions, and satisfaction. The specific research questions were: (1) What are physiotherapy graduates’ career choices and general career intentions at course completion and 2 years following and (2) What factors influence physiotherapy graduates’ early career satisfaction and intended career lengths?

Method

Study design and participants

A post-positivist research approach underpins this prospective cohort study of two surveys (Young and Ryan, 2020). Participants were recruited via voluntary response sampling of student cohorts completing a four-year undergraduate physiotherapy degree at a large urban Australian university who graduated between 2015 and 2018. In total, these cohorts comprised 336 individuals with 66% being female. Participants were invited to complete online surveys upon course completion (Student Survey) and 2 years later (Practitioner Survey). The study received approval from the Monash University Human Research Ethics Committee (Project # 6620) and is reported according to the Checklist for the Reporting of Survey Studies (CROSS) (Sharma et al., 2021) and the Checklist for Reporting Results of Internet E-Surveys (CHERRIES) (Eysenbach, 2004).

Surveys

The surveys, developed for this study, contained an explanatory statement and informed consent section followed by adaptive questions. That is, the questions displayed to each participant depended on their previous answers, so not all questions were shown (or were relevant) to all participants. Questions required either single or multiple responses from a predetermined list, a Likert scale rating or free-text
response. Topics included demographic information, initial employment and career intentions (Student Survey), professional registration, employment location, career intentions and career satisfaction ratings and rationale, and rewards and challenges of practice (Practitioner Survey). The survey questions are included in Appendix 1. After the initial construction of the surveys, they were piloted by faculty and research staff not directly involved with the project.

**Survey administration**

The self-administered closed (password-protected) online surveys were hosted via the Qualtrics™ platform. Participants opted to receive the Student Survey link. Those who provided consent and contact details were emailed the Participant Survey 2 years later. The Qualtrics™ platform assigned specific project identifiers that allowed the matching of responses between Student and Practitioner Surveys without identifying respondents.

Each survey was available to participants for 1 month, with one completed survey per student identifier log-in permitted. Until submission, participants could review or return to a partially completed survey later.

**Analysis**

Survey data was exported for analysis to IBM SPSS Statistics (Version 27). Participants who responded to both surveys were matched and retained, forming a purposive sample to compare both time points. Data were screened for duplicate entries and missing data. Missing data resulted from the surveys’ adaptive questions and a small number of incomplete surveys. Any missing data were not included in the analysis of the associated question.

Frequencies and proportions of responses to categorical questions were derived. A new variable was created to categorize the change in future career intentions reported between both surveys. These categories are explained further below.

**Qualitative analysis**

Responses to the free-text questions regarding the rationales for career length prediction and career satisfaction, along with the perceived rewards and challenges of clinical practice, were analyzed via inductive content analysis (Elo et al., 2014; Hsieh and Shannon, 2005; Vears and Gillam, 2022). Inductive content analysis involves iteratively summarizing free-text responses to identify key concepts. Following initial familiarization with the data, smaller units or codes are applied. These are subsequently organized into larger subcategories and content categories (Hsieh and Shannon, 2005). In line with the recommendations of Elo et al. (2014) the first author completed initial inductive coding. NVivo software was used (QSR International Pty Ltd). Co-authors were regularly consulted for feedback and discussion of definitions and comparing and refining the content categories and subcategories. A new round of coding was completed when the coding framework was changed. All authors agreed upon the final code and category structure. Subsequently, codes were classified as intrinsic or extrinsic occupational factors as defined by Herzberg’s two-factor model of motivation to work (Herzberg, Mausner, Snyderman, and Snyderman, 1993).

Lastly, relational analysis (Robinson, 2011) was used to represent the relationships between codes and participants’ responses regarding career satisfaction, rewards and challenges of clinical practice, and their intended future career lengths. Robinson (2011) described relational analysis as a practical qualitative “add-on” analysis to provide detail of relationships between themes or codes assigned via another method, such as content analysis. In particular, this analysis examined which factors influence the early career satisfaction and intended career lengths of participants, as stated in research question two.

**Results**

**Demographics**

Of the 336 eligible participants, 181 submitted the Student Survey (participation rate 54%). Of those, 141 agreed to be contacted for the Practitioner Survey, of which 96 were submitted (participation rate 68%) (Figure 1). Participants who completed both surveys \( (n = 96) \) were included in the analysis. The respondents were 74% \( (n = 71) \) female and ranged in age from 23.4 to 38.4 years. Around one-fifth undertook some tertiary-level study before studying physiotherapy (Table 1), with the highest proportions in Cohorts 1 and 4.

**Employment settings and practice areas**

A rotating position in the public health system was the most common initial employment preference for student respondents \( (45%, n = 43) \). Intentions to be employed in private practice \( (30%) \), acute care \( (30%) \) and rehabilitation settings \( (32%) \) were comparable. Two-years into their careers, all respondents \( (n = 96) \) were registered physiotherapists in Australia, with all, except one, employed as physiotherapists. The
public health system was the employment location of 32% (n = 31) of respondents, with 25% (n = 24) in private practice. The intended and actual employment settings and practice areas from the Practitioner and Student Surveys are presented in Appendix 2.

A capital city was the most common location where students intended to seek initial employment (75%, n = 72) and where practitioners were employed 2 years later (77%, n = 74) (Appendix 3). Fewer practitioners were working in a major urban center (population approximately 100,000) (9%, n = 9), with 7% (n = 7) and 3% (n = 3) working in a smaller town (population 10,000–25,000) or small community (population <10,000), respectively. Of those not currently working in regional or rural locations (n = 78), 23% stated they would not consider employment in non-metropolitan locations, citing reasons such as wanting to stay at large tertiary acute hospitals or close to family or social support networks.

**Table 1. Practitioner survey participants’ response rates per cohort and demographics.**

<table>
<thead>
<tr>
<th>Cohort and graduation year</th>
<th>1 2015</th>
<th>2 2016</th>
<th>3 2017</th>
<th>4 2018</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohort size at data collection</td>
<td>74</td>
<td>74</td>
<td>95</td>
<td>93</td>
<td>336</td>
</tr>
<tr>
<td>Completed practitioner survey n</td>
<td>21</td>
<td>35</td>
<td>14</td>
<td>26</td>
<td>96</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male n (%)</td>
<td>5 (23.8%)</td>
<td>12 (34.3%)</td>
<td>5 (35.7%)</td>
<td>3 (11.5%)</td>
<td>25 (26.0%)</td>
</tr>
<tr>
<td>Female n (%)</td>
<td>16 (76.2%)</td>
<td>23 (65.7%)</td>
<td>9 (64.3%)</td>
<td>23 (88.5%)</td>
<td>71 (73.9%)</td>
</tr>
<tr>
<td>Age Min-Max (Median)</td>
<td>23.6–30.7 (24.7)</td>
<td>23.7–26.2 (24.5)</td>
<td>23.9–38.4 (24.7)</td>
<td>23.4–33.5 (25.3)</td>
<td>23.4–38.4 (24.7)</td>
</tr>
<tr>
<td>Completed tertiary study before physiotherapy degree n (% of cohort)</td>
<td>6 (28.6%)</td>
<td>3 (8.6%)</td>
<td>1 (7.1%)</td>
<td>10 (41.7%)</td>
<td>20 (20.8%)</td>
</tr>
</tbody>
</table>

**Career satisfaction**

Of the 91 practitioners who rated their career satisfaction, most responded as either “extremely satisfied” (34%, n = 33) or “somewhat satisfied” (49%, n = 47). Justification for these ratings included contributing positively to people’s lives or communities, feeling valued and rewarded by the job, and finding personal growth from performing the job itself. Five practitioners (5%) felt “neither satisfied nor dissatisfied,” and six (6%) reported being “somewhat dissatisfied” with their careers. Free-text responses supporting lower satisfaction ratings referred to poor employer or organizational support, lack of recognition, poor remuneration, stress and disillusionment, or a general lack of direction with their career in physiotherapy.

**Future career lengths**

In each survey, 94 respondents estimated their anticipated future career length working in a physiotherapy-specific role. Those who predicted working for less than 10 years were also asked to provide a rationale for their rating. In the Student Survey, 73% of participants intended to work as a physiotherapist for 10 years or longer. Two years later, this had decreased to 50%. A future career of less than 5 years was predicted by 19% of practitioners (Figure 2). Long term (>20 years) career expectations were reported by 34% of students and 28% of practitioners.

**Changes in career intentions**

Participants’ intentions regarding the time they expected to work in a physiotherapy-specific role on each survey (n = 94) were matched. As noted above, new variables were created by categorizing those with consistently longer future career intentions (>10 years on both surveys, n = 35), those with consistently shorter...
intentions (<5 up to 10 years on both surveys, n = 25), those who had increased their career length intention on the Practitioner Survey (n = 10), and those who declared a decreased future career length on the Practitioner Survey (n = 24). Within the final group, 14 practitioners (15% of respondents) reported they intended to work for 5 years or less. The proportions of male and female respondents in the consistently longer and shorter categories were comparable. Those who increased their career intention length included 12% of female and 3% of male respondents. In contrast, those who decreased their career intention comprised 21% and 26% of female and male respondents, respectively.

In each category, respondents had a mix of high and low levels of satisfaction, however, overall, those with consistently longer career intentions reported being satisfied with their careers (Figure 3). The rationale for higher satisfaction ratings included finding their job

Figure 2. Intended career lengths working in a physiotherapy-specific role on Student and Practitioner surveys (n = 94).

Figure 3. Career satisfaction ratings per career length intention category (n = 90). “Decreased <5 years Practitioner Survey” is a subgroup of the “Decreased” category.
rewarding and enjoying the challenges of physiotherapy practice. Those with lower satisfaction referred to context-dependent (extrinsic) factors, such as workload, staffing levels, and interpersonal factors. An example response typifying enjoyment from the clinical work but a negative impact from the associated tasks:

I love doing actual physio work where I’m using my clinical skills but I find outside factors difficult. (e.g. endless paperwork, being understaffed/always ridiculously busy, dealing with impolite patients/family members). (Participant 66)

Those with consistently short future career intentions reported less positive or neutral ratings of career satisfaction, with comments communicating a lack of motivation for their work, including:

Not sure what I’m doing but I know I’m not waking up for work in the morning excited for work. (Participant 79)

Practitioners who reported a decreased future career length compared to their expectation upon completing their degree were also satisfied with their careers, however, there was a higher proportion of those “somewhat satisfied” than “extremely satisfied.” Justification for the shorter career intentions included a limited scope of variety in practice, not enough senior progression opportunities, poor remuneration and poor work/life balance. In contrast, those who increased their intended future career length following their early clinical experience cited contributing factors of support from employers whether organizational or from senior colleagues, work/life balance, overall enjoyment of the job and a person-organization fit. For example:

My company work culture is amazing. It values every Physio not just as an employee but as an individual. All personalities are seen as valuable to the profession. I feel like I’m making a difference in the seniors and elderly patients I see everyday. (Participant 25)

**Categories impacting career attitudes**

Free-text responses regarding the rewards and challenges of clinical practice, and justifications of career satisfaction and intended career lengths, were organized into six categories impacting career attitudes: 1) achievement and recognition; 2) personal factors; 3) aspects of the profession; 4) interpersonal factors; 5) working conditions; and 6) the clinical role. Table 2 contains the coding framework and classification of each code according to the two-factor model. The relationships of codes classified as intrinsic and extrinsic factors, with career satisfaction and length intentions, are represented in Figures 4 and 5.

**Intrinsic occupational factors**

**Category 1: Achievement and Recognition.** This category comprised codes of feeling valued and positively impacting others and were related to higher career satisfaction ratings and longer future career intentions. Feeling valued was described by comments specifying interactions where others explicitly expressed appreciation or trust developed, for example:

People actually say how grateful they are and how much you help them and that feels pretty […] nice. (Participant 9)

You see your patients get better, they trust you, praise you, and connect with you. This defines my value in practicing physiotherapy. (Participant 11)

Whereas a perceived positive impact on others or the community, be it direct or indirect, included reflections from physiotherapy practice such as:

Having the privilege to learn my patients’ stories and goals, and being able to work with them to bring about meaningful change in their lives. (Participant 27)

Being able to help people at their most vulnerable and contribute to making a better community (Participant 54)

**Category 2: Personal Factors.** The subcategories of professional development (encompassing confidence and impact of experience), competencies (including clinical reasoning and managing uncertainty), and emotional aspects (such as enjoyment, emotional burden, and disappointment) were grouped in this category.

Developing as a professional, growing in confidence and gaining experience were associated with higher career satisfaction ratings and longer career intentions, such as:

I enjoy going to work each day. As I am rotating I am gaining further experience and knowledge in new areas which means I am continuously challenged and I am continuously learning. (Participant 28)

[...] I am finding my groove and confidence working as a private physio. (Participant 63)

In contrast, lower ratings of career satisfaction and shorter career intentions were linked to negative sentiments regarding emotional aspects such as:

The emotional burden of patients. As physiotherapists we are often very close to our patients (see them often, spend a lot of time with them in close proximity) and have take on a lot of emotional load. (Participant 50)

[The] Stress of trying to maintain being an evidence based practitioner in a non-evidence based culture (Participant 84)
Table 2. Categories and codes identified in content analysis. The classification of each code according to the two-factor model is also included.

<table>
<thead>
<tr>
<th>Category</th>
<th>Code (or subcategory)</th>
<th>Definition</th>
<th>Two-factor model classification</th>
<th>Rationale for classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Achievement and recognition</td>
<td>Feeling valued</td>
<td>Any reference to feeling valued or appreciated by others or INTRINSIC an organization</td>
<td>INTRINSIC</td>
<td>According to the two-factor model, feeling valued and appreciated is an intrinsic factor (motivator).</td>
</tr>
<tr>
<td></td>
<td>Positively impacting</td>
<td>Any reference to contributing to positive outcomes for others or INTRINSIC individuals or the community</td>
<td>INTRINSIC</td>
<td>Personal reward from performing the job itself.</td>
</tr>
<tr>
<td>2. Personal factors</td>
<td>Professional development (subcategory)</td>
<td>Impact of experience Developing skills and knowledge from practicing physiotherapy</td>
<td>INTRINSIC</td>
<td>Relates to growth resulting from gaining experience in practicing physiotherapy.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Confidence Any reference to feeling confident or developing confidence INTRINSIC</td>
<td>INTRINSIC</td>
<td>A personal interpretation and internal assessment of ability.</td>
</tr>
<tr>
<td></td>
<td>Competencies (subcategory)</td>
<td>Managing uncertainty Any reference to experiencing uncertainty with unfamiliar conditions or new positions</td>
<td>INTRINSIC</td>
<td>A requirement of performing the job itself.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Responsibilities of independent clinical practice Any reference to responsibilities carried in employment as a professional rather than a student</td>
<td>INTRINSIC</td>
<td>A requirement of performing the job itself.</td>
</tr>
<tr>
<td></td>
<td>Emotional aspects (subcategory)</td>
<td>Enjoyment Any reference to enjoying physiotherapy practice</td>
<td>INTRINSIC</td>
<td>An individual's perception from their own experience and specific situations of practicing physiotherapy.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Emotional burden Any reference to emotional toll or demand (or burnout or stress specifically)</td>
<td>INTRINSIC</td>
<td>Specific to individuals; their perceptions and internal resources (e.g. coping strategies) and external resources (e.g. social support).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disappointment Any reference to being disappointed or disillusioned</td>
<td>INTRINSIC</td>
<td>Part of an individual’s emotional response.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Meeting self-expectations Any reference to meeting own expectations</td>
<td>INTRINSIC</td>
<td>A personal interpretation, placing expectations upon self, dependent upon (and will vary with) personal perception.</td>
</tr>
<tr>
<td></td>
<td>Lacking direction</td>
<td>Any reference to lacking direction specific to job or career</td>
<td>INTRINSIC</td>
<td>Resulting from an individual’s experience and motivation.</td>
</tr>
<tr>
<td>3. Aspects of the profession</td>
<td>Flexibility of profession</td>
<td>Any reference regarding flexibility or opportunities as qualified physiotherapist</td>
<td>EXTRINSIC</td>
<td>The context of where jobs are available or what professional opportunities are available with the qualification. Not specific to an isolated position.</td>
</tr>
<tr>
<td></td>
<td>Professional learning requirements</td>
<td>Any reference to meeting professional learning requirements (evidence-based practice and continuing professional development)</td>
<td>EXTRINSIC</td>
<td>As professional requirements, these are not specific to a particular position – an ongoing profession-specific requirement relating to maintaining competence and registration.</td>
</tr>
<tr>
<td>4. Interpersonal factors</td>
<td>Working with others</td>
<td>Any reference to working with others (clients, family members or professionals)</td>
<td>EXTRINSIC</td>
<td>An extrinsic factor directly classified by the two-factor model.</td>
</tr>
<tr>
<td></td>
<td>Dealing with difficult people</td>
<td>Any reference to dealing with challenging people/behaviors</td>
<td>EXTRINSIC</td>
<td>An extrinsic factor directly classified by the two-factor model.</td>
</tr>
<tr>
<td></td>
<td>Meeting the expectations</td>
<td>Any reference to meeting the expectations of others</td>
<td>EXTRINSIC</td>
<td>A contextual factor of practice.</td>
</tr>
<tr>
<td>5. Working conditions</td>
<td>Hours</td>
<td>Any reference to working hours</td>
<td>EXTRINSIC</td>
<td>An extrinsic factor directly classified by the two-factor model.</td>
</tr>
<tr>
<td></td>
<td>Secure employment</td>
<td>Any reference to secure or ongoing nature of employment</td>
<td>EXTRINSIC</td>
<td>A feature of current employment, dependent on the employer – directly classified in the two-factor model as extrinsic.</td>
</tr>
<tr>
<td></td>
<td>Work/life balance</td>
<td>Any reference regarding balancing work demands and personal activities</td>
<td>EXTRINSIC</td>
<td>Related to the opportunities for personal activities when balancing responsibilities and long hours of practice.</td>
</tr>
</tbody>
</table>
Table 2. (Continued).

<table>
<thead>
<tr>
<th>Category</th>
<th>Code (or subcategory)</th>
<th>Definition</th>
<th>Two-factor model classification</th>
<th>Rationale for classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remuneration</td>
<td>Any reference to remuneration</td>
<td></td>
<td>EXTRINSIC</td>
<td>An extrinsic factor directly classified by the two-factor model</td>
</tr>
<tr>
<td>Staffing</td>
<td>Any reference to staffing levels</td>
<td></td>
<td>EXTRINSIC</td>
<td>An extrinsic factor directly classified by the two-factor model</td>
</tr>
<tr>
<td>Support</td>
<td>Any reference to finding or accessing support from an organization, colleagues or peers.</td>
<td>Support is provided beyond the intrinsic processes of a particular job. It stems from the employer and their processes or colleagues.</td>
<td>EXTRINSIC</td>
<td></td>
</tr>
<tr>
<td>Workload</td>
<td>Any reference to workload (all activities undertaken in employment), including</td>
<td></td>
<td>EXTRINSIC</td>
<td>An extrinsic factor directly classified by the two-factor model</td>
</tr>
<tr>
<td></td>
<td>● caseload</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>● associated non-clinical work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>● time pressures</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. Clinical role:

|                    |                                                                                       |                                                                                                                              |                                |                                                                                               |
|--------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|                                |                                                                                               |
| Progression        | Any reference to progression to senior roles                                           |                                                                                                                              | INTRINSIC                       | As a growth need, progression opportunities are defined in the two-factor model as intrinsic.  |
| Extent or (scope)  | Any reference to extent or area (scope) of practice or variation of tasks within a specific job (limited or broad/      |                                                                                                                              |                                | Part of the job itself and related to growth stimuli or opportunities                           |
| of practice        | varied)                                                                               |                                                                                                                              |                                |                                                                                               |
| Conditions         | Any reference to conditions of clients including those with complex needs, not improving, or with poor prognoses.    |                                                                                                                              | UNCLASSIFIED                    | The complexity and acuteness of a client’s condition depend on the employment setting (e.g.    |
|                    |                                                                                       |                                                                                                                              |                                | acute hospital, ICU, or private practice). However, it is also part of the job and depends on an |
| Physical demand    | Any reference to the physical demands of clinical practice                              |                                                                                                                              | EXTRINSIC                       | individual therapist’s perception. This code does not fit cleanly into the existing two-factor  |
|                    |                                                                                       |                                                                                                                              |                                | model classifications.                                                                  |
|                    |                                                                                       |                                                                                                                              |                                |                                                                                               |

S. PAYNTER ET AL.
Extrinsic occupational factors

Category 3: Aspects of the Profession. The codes of professional learning requirements and flexibility comprised this category. The profession’s flexibility refers to the adaptability of either opportunities or lifestyle that comes from working within the profession rather than aspects specific to a job which were coded under variety of practice in category six. Positive sentiments regarding the profession’s flexibility were related to career satisfaction and longer career intentions. For example:

Also, being able to work and travel at the same time in different states around Australia - being able to pick up...
tips/tricks along the way from different physios and
develop your interest in a wide range of areas that you
may not be able to if you stayed in the same place.
(Participant 70)

... feel like I can go anywhere and work: interstate or
overseas. (Participant 13)

Category 4: Interpersonal Factors. This category
included codes regarding interactions with others.
Working with others generally, in contrast to under-
taking a less person-oriented profession, was related
to higher career satisfaction ratings, such as:

Interactions with patients and co-workers, achieving
jointly set goals with patients. (Participant 54)

... getting to interact with and meet new people every-
day including staff and patients. (Participant 66)

Although, if others were considered difficult to deal
with, this presented as a challenge creating an emotional
burden (classified in category two) and therefore was
indirectly linked to lower career satisfaction and shorter
career intentions. For example:

Difficult and challenging patients [...] Difficult collea-
gues and managers. (Participant 20)

Situations I’ve been in at work have been quite stressful e.g
deteriorating or aggressive patients and I think this takes
a toll on your ability to switch off at the end of the day and
interact with friends and family. (Participant 39)

Category 5: Working Conditions. This category rep-resented
the external aspects of employment, such as
staffing, hours, and workload. Codes demonstrated
relationships with both career satisfaction and dissatisfac-
tion, or long or shorter career intentions, depending on
the sentiment of the comment. For example, regarding
support, suitable support mechanisms related to higher
career satisfaction ratings, whereas negative sentiments
were associated with career dissatisfaction and shorter
career intentions. For example:

I am satisfied in that I am currently working in
a practice which supports me and is incredibly reward-
ing. (Participant 51)

Last year I did not have an enjoyable experience at the
previous hospital as I found I was not supported with
clinical education or with learning opportunities and
supervision. (Participant 75)

Work/life balance was another category with
a noticeable influence. “Good” work/life balance fea-
tured in rationales for high satisfaction ratings and
longer career intentions. Whereas those who were less
satisfied and intended shorter careers referenced poor
work/life balance as a substantial contributor.

Long work hours and giving up my own sport and
hobbies to pursue this career (Participant 61)

[I] Can’t stress how satisfying it is to live and work in
a rural community. The work life balance is second to
none [...] I am continually learning from both clients and
other physiotherapists, what more could you ask for. (Participant 89)

Mixed occupational factors

Category 6: the clinical role. Data coded to this cat-
gory described aspects specific to a clinical role, such as
the extent of or variety of practice, physical demands,
and opportunities for career progression. Dealing with
complex client conditions was also discussed, relating
to complex physical or social situations, poor prog-
noses or clients not responding to physiotherapy inter-
vention. These situations were challenges to negotiate
during the early career period. The broad extent of
practice or variety of daily tasks were mentioned as
a rewarding aspect of clinical practice and associated
directly with favorable ratings of career satisfaction
such as:

...the variety in people and presentations you see daily”
(Participant 38)

I have the opportunity to experience a wide range of
areas of physiotherapy in a supportive and friendly
environment, whilst maintaining a good work-life
balance (Participant 31)

In contrast, if the perceived variety encountered in
clinical practice was too great or too narrow, it could
have a negative impact. For example:

Being in very general areas in rural/regional hospitals,
needing to be able to jump between multiple different
areas of physiotherapy and settings in one day.
(Participant 70)

The monotony of some interventions, limited scope of
practice ... (Participant 54)

Discussion

This is the first published study to report on the
repeated assessment of career length intentions over
the early career period. Early career choices, intentions,
and satisfaction levels were measured in four student
cohorts from a large urban Australian university.
Applying the two factor model of motivation to work,
the contributors to career satisfaction and longer career
intentions were mainly intrinsic occupational factors,
such as feeling valued, enjoying physiotherapy practice and developing confidence. In addition, the extrinsic occupational factors of support and work/life balance promoted satisfaction and longer career intentions when satisfactory yet, contributed to dissatisfaction and shorter intentions if perceived as inadequate. Most participants were satisfied with their early physiotherapy careers.

Two years into their professional employment, despite being satisfied with their careers, one-quarter of respondents predicted shorter future careers in physiotherapy than when they completed their studies. Nearly one-fifth of respondents predicted future careers of less than 5 years, which is a larger proportion than the 10% of graduates reported by Bacopanos and Edgar (2016). Almost half of the respondents predicted career lengths of less than 10 years, a percentage close to the 64.5% reported by Mulcahy, Jones, Strauss, and Cooper (2010). Similarly, one-quarter of practitioners in this study declared an intention for a long-term career in a physiotherapy-specific role (>20 years), consistent with both previously mentioned surveys (Bacopanos and Edgar, 2016; Mulcahy, Jones, Strauss, and Cooper, 2010).

Respondents who decreased their future career intentions over this period, or reported a short intention on the Practitioner Survey, generally had lower satisfaction ratings. While links between job satisfaction and retention in physiotherapy have been mixed, a meta-analysis suggests that satisfaction may mediate an individual’s reaction to stressful situations and impact voluntary turnover intentions (Rubenstein, Eberly, Lee, and Mitchell, 2018). Furthermore, Evans et al. (2022) reported higher job satisfaction was associated with lower burnout in new graduate physiotherapists, a predictor of an intent to leave in health professionals (Burri et al., 2022; Shanafelt et al., 2009). However, it is likely that a range of factors will influence an individual’s judgment of their occupational satisfaction, potentially impacting retention and future workforce capacity. Both intrinsic and extrinsic factors, according to the two-factor model, may be influential in enhancing the satisfaction of early career physiotherapists.

Intrinsic occupational factors relating to higher levels of career satisfaction and longer career intentions align with the two-factor model’s underlying theory, as they act as motivators and facilitate job satisfaction. This supports the application of the model in this study. Achievement and recognition during employment (i.e., feeling valued and positively impacting others) and a broader scope of practice have been associated with satisfaction in other physiotherapy-specific studies (Bacopanos and Edgar, 2016; Campbell, McAllister, and Eley, 2012; Latzke et al., 2021; Mulcahy, Jones, Strauss, and Cooper, 2010) and in rehabilitation professionals (Wilson, 2015). In addition, Sinsky, Brown, Stilleman, and Linzer (2021) reported that feeling valued was protective of intentions to leave jobs in American healthcare workers. In our study, some factors classified as intrinsic demonstrated a negative influence on an intention to stay, such as a narrow scope of practice and a lack of progression opportunities which others have also reported (Bacopanos and Edgar, 2016). While the intrinsic classification represents these factors being employment specific, it does not preclude organizations or employers from engaging in strategies to enhance these aspects, given their potential negative impact if inadequately addressed.

Negative emotional aspects, such as emotional burden, disappointment, and lacking direction had substantial relationships with shorter career intentions and lower satisfaction ratings. These are similar to the components of burnout noted worldwide in the health professions as an independent predictor of an intent to leave healthcare professions (Burri et al., 2022; Shanafelt et al., 2009). Burri et al. (2022) systematic review suggested that focusing on the occupational environment or organization might influence the development of burnout. Our findings support this in that poor support or work relationships and poor organizational structure were related to job dissatisfaction.

Support was a substantial extrinsic occupational factor in this study related to satisfaction and notably contributed to increased career intention length in some practitioner respondents. While the survey design prevented clarification of the specific support referenced (e.g., organizational or individual) the sentiment of feeling supported was important and influential. Relevant statements might refer to the general culture of an organization or be more directed toward resources of support provided, such as accessing supportive colleagues and mentorship. A detailed examination of the potential impacts of an organization’s culture is beyond the scope of this paper. However, it is an aspect that may influence the leaders and leadership styles adopted within the organization or a person’s perceived “fit” or congruence with the employer (Herkes et al., 2019). Several studies have focused on structural support provided by employers and demonstrated the value of formal support programs, such as mentorships, in the first year of physiotherapy practice (Arkwright, Edgar, and Debenham, 2018; Chipchase et al., 2022; Davies, Edgar, and Debenham, 2016; Stoikov et al., 2022; Wells et al., 2021). The benefits from these programs may also extend beyond the immediate practice context for the employee to an enhanced commitment to the workplace and a desire to
contribute to the future support of junior colleagues (Lao, Wilesmith, and Forbes, 2022). Our findings suggest that support was also valued and impactful beyond the first year of practicing. Future longitudinal research in this area of organizational support is warranted to improve understanding of its impact on the retention of early career physiotherapists in more detail.

Limitations

This study’s limitations include using a non-validated survey and recruiting participants from one institution, both of which restrict the generalizability of findings to other programs or settings. Nevertheless, it is strengthened by repeated surveys of a representative sample of participants, capturing individual changes in career length intentions. Notably, each survey attained participation rates exceeding 50%.

The two-factor model provided a useful framework for considering short free-text answers regarding career satisfaction and limitations. However, other models that include individual dispositional factors, such as core self-evaluations, or more detailed contextual job-specific information, such as the job characteristics model may be helpful for future research with richer qualitative data from interviews or focus groups.

Conclusion

This study found that even though early career physiotherapists remained satisfied, an increasing proportion of respondents intended to leave physiotherapy-specific employment within 5 years. The findings suggest that the employment setting during the early career period is important to occupational satisfaction, particularly regarding organizational support and work/life balance. A greater focus on these aspects, particularly in the early years of practice, may encourage longer-term career intentions and be one facet of growing future workforce capacity.

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## Appendix 1. Summary of questions of the Student and Practitioner surveys

<table>
<thead>
<tr>
<th>Question Topic</th>
<th>Detail</th>
<th>Survey</th>
<th>Question response type</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date of birth</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Gender (male/female/other)</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Year of graduation and specific degree</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Previous study</strong></td>
<td>Did you complete any tertiary study before beginning physiotherapy?</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>If yes: What study did you complete?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Rural clinical placement locations</strong></td>
<td>Did you complete any rural clinical placements?</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>If yes: Where and when were your rural clinical placements?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Initial career intentions</strong></td>
<td>Do you anticipate working as a physiotherapist at all in the future?</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>If no: What are the main reasons for your intention NOT to work as a physiotherapist in the future?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Physiotherapy employment</strong></td>
<td>Do you think you'll be working as a physiotherapist in two years time?</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>If yes: How long do you think you'll eventually work as a physiotherapist?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Geographical location</strong></td>
<td>Do you intend to practice as a physiotherapist next year?</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Future career length intention</strong></td>
<td>Which area of practice and in what setting do you hope to work in initially (i.e. next year) ?</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Which area/s of physiotherapy practice are you currently most interested in pursuing as a career?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Which clinical area/s of physiotherapy practice and in what setting are you currently working in? (select all that apply)*</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Is your employment (full-time, part-time, casual, other)?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Do you have any other paid employment?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>If yes: What is your other paid employment?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Registration</strong></td>
<td>Ideally, in which geographical location do you intend to (or would you most prefer) to work?</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>In which geographical location do you currently work?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>If not working in a smaller town: Have you ever worked as a physiotherapist in a smaller town (regional center, smaller town or community)?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Future career length intention</strong></td>
<td>At the moment, how long do you anticipate working in physiotherapy practice or in a physiotherapy-specific role*?</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>If up to 10 years and under: What are your main reasons for this estimation?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>If &gt;2 years: In two (2) years, where do you hope to be working primarily?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>If not intending to work in physiotherapy in two years' time: What do you plan to be doing? (for example: studying, working in another specific area, unsure)</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Physiotherapy employment</strong></td>
<td>Are you currently registered as a physiotherapist with the Physiotherapy Board of Australia?</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>If no: Have you ever been registered as a physiotherapist in Australia?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>If no: Why haven't you registered to practice as a physiotherapist in Australia?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>If yes: What were your reasons for not maintaining your Australian registration?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>If yes: Do you intend to renew your Australian registration?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>If no: What are the main reasons you will not be re-registering in the future?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>If no: What is your current occupation?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Physiotherapy employment</strong></td>
<td>If registered: Are you currently working as a physiotherapist?</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>If no: Have you ever been employed as a physiotherapist?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>If no: What is your current occupation?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>If did work as physiotherapist: How long did you work as a physiotherapist? In which clinical area/s of physiotherapy and in what setting did you work?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>If not currently working as physiotherapist: What are your reasons for not currently working in physiotherapy?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>What is your current occupation?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Registration</strong></td>
<td>Do you intend to work as a physiotherapist again in the future?</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>If not intend to work again as a physiotherapist (or are unsure): What are the main reasons for your intention NOT to work/why you are unsure if you will work as a physiotherapist again in the future?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>If currently employed as physiotherapist: What is your current (primary) job title?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Which clinical area/s of physiotherapy practice and in what setting are you currently working in? (select all that apply)*</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Is your employment (full-time, part-time, casual, other)?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Do you have any other paid employment?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>If yes: What is your other paid employment?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Rewards and challenges</strong></td>
<td>What do you find to be the most rewarding aspect of professional physiotherapy practice?</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>What do you find to be the most challenging part of working as a physiotherapist?</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

(Continued)
<table>
<thead>
<tr>
<th>Question Topic</th>
<th>Detail</th>
<th>Survey</th>
<th>Question type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career satisfaction</td>
<td>How satisfied are you with your physiotherapy career to date?</td>
<td>✓</td>
<td>Discrete choice</td>
</tr>
<tr>
<td></td>
<td>What are the main reasons for your rating?</td>
<td>✓</td>
<td>Free-text</td>
</tr>
<tr>
<td>Additional information</td>
<td>Is there anything else you'd like to add relevant to your career so far you have not had a chance to mention in this survey?</td>
<td>✓</td>
<td>Free-text</td>
</tr>
</tbody>
</table>

#Questions with display logic. If yes/no to the initial question, the question in italic was presented.
* Questions with discrete choice from multiple categories.

- **Career intention length:**
  - 0–2 years, >2–5 years, >5–10 years, >10–20 years, >20 years

- **Geographical location:**
  - a capital city, a major urban center, regional city or large town, a smaller town, a small community, no specific location.
  - A local example and population range guide was provided for each option

- **Preferred or actual practice stream and setting (multiple responses)**
  - Neurology, Cardiorespiratory, Musculoskeletal – orthopedics, Pediatric, Gerontology/Aged Care, Women’s health, Aquatic, Disability services, Health promotion. Musculoskeletal – sports specific, Musculoskeletal – manipulative therapy, Occupational health
  - Research, Education, Management (where relevant)
  - A grade 1 rotating position
  - Acute care, Rehabilitation
  - Public health, Private practice, Not for profit
  - Unsure
  - Other not listed (please describe below)

- **Career satisfaction**
  - extremely dissatisfied, somewhat dissatisfied, neither satisfied not dissatisfied, somewhat satisfied, extremely satisfied
Appendix 2. Areas of interest (clinical stream and practice areas) on the Student Survey (initial and career intentions) and Practitioner Survey (current employment) (n = 95)

Note: Non-exclusive category choice (i.e., multiple responses were allowable).
Appendix 3. Location of intended employment (Student Survey) and employment location two years later (Practitioner Survey) (n = 94)

Note: ‘No specific location’ was an option on the Student Survey only regarding an intended geographical area of initial employment.