

The Knowledge, Attitudes, and Practices of Canadian Master of Physical Therapy Students Regarding Peer Mentorship

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ABSTRACT

Purpose: To describe Canadian Master of Physical Therapy (MPT) students' knowledge, attitudes, and practices regarding peer mentorship. **Methods:** A quantitative cross-sectional survey study was conducted. An online questionnaire was sent to 945 MPT students via e-mail, using a modified Dillman approach. Data were analyzed using descriptive statistics to describe the knowledge, attitudes, and practices of Canadian MPT students. **Results:** A total of 260 MPT students (27.5%) responded to the questionnaire. Most respondents (68.7%) did not have any experience in a peer mentorship relationship during their MPT programme. A few respondents (5.4%) reported having received formal training on peer mentorship as part of their PT curriculum. Respondents generally held positive attitudes toward peer mentorship: 65.9% agreed that including peer mentorship is important, 89.5% agreed that peer mentorship can assist with learning in clinical internships, and 84.1% agreed that peer mentorship can help the transition from student to professional. Most respondents (52.5%) did not participate in a peer mentorship relationship during a typical month. **Conclusions:** MPT students' attitudes toward peer mentorship are positive, yet their knowledge of and resources for peer mentorship are limited, and few students have been involved in peer mentorship practices. The findings highlight the importance of university programme support to provide a nurturing environment and structure to overcome barriers, promote commitment, and facilitate successful participation. The evidence from this study provides a rationale to support and guide peer mentorship programming for Canadian MPT students.

Key Words: mentors; physical therapy; students.

RÉSUMÉ

Objectif : Décrire les connaissances, le point de vue et les pratiques des étudiants canadiens à la maîtrise en physiothérapie en matière de mentorat par les pairs. **Méthode :** Un sondage quantitatif transversal a été réalisé. Pour ce faire, un questionnaire a été mis en ligne et a été envoyé par courriel à 945 étudiants à la maîtrise en physiothérapie (M.Pt.), à l'aide de la méthode de Dillman modifiée. Les données ont été analysées sous forme de statistiques descriptives pour décrire les connaissances, les attitudes et les pratiques des étudiants canadiens à la maîtrise en physiothérapie. **Résultats :** Au total, 260 étudiants à la maîtrise en physiothérapie (27,5 %) ont répondu au questionnaire. La plupart des répondants (68,7 %) ont dit n'avoir eu aucune expérience de mentorat par des pairs au cours de leur programme de M.Pt. Quelques répondants (5,4 %) ont dit avoir reçu une formation en mentorat par les pairs dans le cadre de leur programme de cours. Les répondants avaient généralement une opinion positive envers cette forme de mentorat ; 65,9 % ont affirmé qu'à leur avis, le mentorat par les pairs était important ; 89,5 % se sont dit en accord avec le fait que le mentorat par les pairs peut les aider dans leurs apprentissages en stages cliniques et 84,1 % ont dit estimer que le mentorat par les pairs peut aider à la transition du statut d'étudiant à celui de professionnel. La plupart des répondants (52,5 %) n'avaient pas participé à une forme de mentorat par les pairs au cours d'un mois typique. **Conclusions :** Le point de vue des étudiants en physiothérapie face au mentorat par les pairs est plutôt positif ; même si leurs connaissances et leurs ressources face à une telle forme de relation sont plutôt limitées, quelques étudiants ont vécu cette forme de mentorat. Ces conclusions viennent souligner l'importance du soutien au programme universitaire afin d'offrir un milieu et une structure qui permettrait de surmonter les obstacles, de promouvoir l'engagement et de favoriser une participation réussie. Les preuves recueillies à la suite de cette étude constituent des arguments en faveur de programmes de mentorat et permettront d'encadrer de tels programmes pour les étudiants canadiens à la maîtrise en physiothérapie.

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There have been significant changes in the health care system and in the employment patterns and academic preparation of physiotherapists in Canada over the last decade.¹ While the majority of physiotherapists were previously employed in hospitals, more (60.9%) are now working in private-practice clinics or in business or community-based settings.² Physiotherapists in these settings are particularly challenged in terms of maintaining collegial relationships, and professional development needs to meet the requirements of a self-regulated profession;¹ peer mentorship is one strategy that has been used to address these challenges.³ Over the last decade, moreover, the entry-level practice requirement for physiotherapists in Canada has changed from a bachelor's to a master's degree,⁴ resulting in significant modifications to the academic curriculum. The new Master of Physical Therapy (MPT) graduate programmes are condensed into 2 years of fast-paced learning.^{5,6}

Peer mentorship has been identified as an effective way to address these changing professional needs.³ Particularly within the academic training process, peer mentorship has the potential to help students develop needed professional skills and manage the stresses of such intense programmes.^{3,7-11} Peer mentorship among students is defined as an interpersonal relationship in which a senior, more experienced student, the mentor, provides guidance and support to a junior, less experienced student, the mentee.¹²⁻¹⁴ Early exposure to peer mentorship can foster the acquisition of skills necessary to support personal growth, both professionally and psychosocially; facilitate the transition from student to clinician; and help to advance the physiotherapy (PT) profession.^{3,7-10}

Mentorship, which involves recognizing strengths and providing constructive feedback,¹⁵ can be seen as a process of collaborative learning, which is the learning approach most adults prefer.³ This cooperative process is envisioned as being underpinned¹⁶ by the social learning theory,^{17,18} the concept of reflective practice,^{19,20} and the situated learning and community of practice theory.^{17,18} These theories relate to sharing of knowledge and experience between individuals, role modelling, critical appraisal leading to new understanding, and contextual learning in which participants are involved in a shared endeavour that embodies beliefs and behaviours.¹⁷⁻²⁰ These underpinnings, and peer mentorship itself, become even more theoretically relevant in the context of physiotherapists' professional development. Learning about the culture of a profession is a social enterprise in which novices rely on the expertise and experiences of their peers to support their own development.^{16,17} Learners engage in critical analysis and evaluate their experiences to gain new understanding and appreciation of how they think and operate in the clinical setting.^{19,20} Because peer mentorship is based on goal development

and growth, the mentor assists the mentee through a framework of guided reflection.^{15,19}

Mentorship can fall anywhere along a continuum from formal to informal relationships. The formal relationship involves matchmaking processes, established goals, schedules, training, and evaluation facilitated by an organization.^{21,22} The informal mentorship relationship, on the other hand, involves self-selection; the aim may be unspecified, with minimal to no structure, but compatibility of the partners is high.^{21,22} The type of mentoring appropriate for an organization depends on its needs. As well, establishing a successful mentorship relationship requires first identifying the needs and readiness of the learner—factors that have yet to be studied or documented at the MPT student level.²³⁻²⁵

The work of Klasen and Clutterbuck is frequently cited in identifying key characteristics and roles of the mentor and mentee.²⁶ These authors suggest, for example, that mentors must possess skills for leadership, social networking, goal setting, and conflict resolution. The mentee's role involves being an active learner, having ambition, and possessing good communication skills.^{4,14,26,27}

A comprehensive review of the mentorship literature highlights three clear gaps. First, there is little research addressing students, specifically Canadian MPT graduate students, and their needs. Most of the literature relates to the organizational workplace setting. For example, a 2008 study reviewed 200 published articles, all of which relate specifically to workplace mentoring.²⁸ In the health care field, studies have been conducted primarily in nursing and medicine;^{11,15,23,29-32} these studies, furthermore, are predominantly focused on practising clinicians or faculty, and research is only beginning to extend to the graduate student perspective. The second gap is a lack of research specifically addressing *peer* (student-student) mentoring relationships: in clinical education, most investigations of mentoring deal with faculty-student relationships.^{12,15,29,31,32} Finally, few studies of mentorship include measurement of psychosocial variables such as satisfaction and expectations for professional advancement;^{28,33} instead, measures largely relate to programme evaluation and focus on career development.^{28,33} Following a meta-analysis of 43 studies, Allen and colleagues concluded that a quantitative study of mentoring benefits would be a welcome contribution to the literature.³³

As health care rapidly evolves, physiotherapists are challenged as lifelong learners in their quest to keep abreast of current knowledge and practices. Novice physiotherapists have identified peer mentorship as critical to professional success,³⁴ and new graduate physiotherapists have expressed a strong desire to be involved in a mentorship relationship as they take on their role as professionals.³⁵ To date, however, peer mentorship remains unstudied at the Canadian MPT student level.

It is at the university level that one gains the necessary foundation and tools for professional lifelong learning. As Myall and colleagues showed in their work on nursing, mentorship is instrumental in enabling students to develop into confident and competent practitioners.²⁹ Peer mentorship could be valuable for PT students to develop learning tools, as well as professional and psychosocial skills—all of which could be carried forward into the PT profession.

Ladyshevsky has reported benefits applicable to peer mentorship in the context of clinical PT education, including enhanced clinical competence and participant satisfaction, improved knowledge acquisition, higher-level reasoning, creativity in problem solving, and social support.³⁶ Ladyshevsky's study was based solely on theoretical concepts, however, and its findings were not derived from actual measurement or observation in practice. Barriers to peer mentorship that may be of concern for the MPT student population, such as lack of time, ambiguity about roles and expectations, and lack of organizational support, remain unstudied.¹²

The Canadian Physiotherapy Association (CPA) has acknowledged the significance of peer mentorship with its online mentorship programme for practising physiotherapists. The programme consists of self-directed learning modules, a mentor database, and a mentor search engine to facilitate the development of mentorship relationships among CPA members.⁴ This initiative was tailored to address the demands of practising clinicians, however, rather than those of students.⁴

An environmental scan conducted in 2009 by the research team at the University of Toronto highlighted the need for peer mentorship specifically for Canadian MPT students. The results of the scan indicate support and interest from three groups at the university: students, faculty, and the School of Graduate Studies. An informal pilot survey of all Canadian MPT programmes found a lack of peer mentorship programmes, and an inquiry at the CPA level revealed the absence of a student-specific programme.⁴

Knowledge, attitude, and practice are interdependent factors. *Knowledge* is understanding of a topic;^{37,38} *attitude* is defined as an individual's feelings toward a subject;^{37,38} and *practice* denotes actions that demonstrate knowledge and attitudes.^{37,38} In PT, studies of these factors in the context of evidence-based practice have reported that knowledge and attitude are regarded as key influences on the implementation of practice.^{39,40} To date, however, these factors have not been investigated in relation to peer mentorship for MPT students. A study of what Canadian MPT students know, believe, and practise with respect to peer mentorship could be of value in determining specific needs and tailoring a programme to meet those needs. The primary objective of this study, therefore, was to describe Canadian MPT students' knowledge, attitudes, and practices with respect to peer mentorship. A secondary objective was to examine associations

among demographic variables, knowledge, attitudes, and practices. This research could provide empirical data to guide education and programming specifically targeting peer mentorship for MPT students.

METHODS

We conducted a quantitative cross-sectional survey study. Ethics approval was obtained in December 2009 from the University of Toronto Research Ethics Board.

Participants

The target population for this study consisted of MPT students enrolled in a 2-year Master of Physical Therapy programme at a Canadian university in the 2009–2010 academic year.

To recruit potential participants, we sent an e-mail invitation to the academic coordinators of clinical education (ACCEs) at eligible Canadian universities, who were asked to obtain administrative consent from their universities to participate in the study. A designate at each university was assigned to forward e-mails from the principal investigator to students, a step designed to maintain respondent anonymity. Completion of a questionnaire implied informed consent.

Procedure

The measurement tool for the study was a self-administered online questionnaire created using the Web-based tool SurveyMonkey and consisting primarily of closed-ended questions. The 35-item questionnaire was developed using (1) relevant research pertaining to peer mentorship and essential domains related to professional development and psychosocial support; (2) surveys that explored the same three concepts of knowledge, attitudes, and practices;^{39,40} and (3) input from key informants, including members of the National Student Assembly (CPA)⁴ and a clinical expert in the field of mentorship.^{14,19} The questionnaire was divided into five sections: introduction, demographic information, knowledge, attitudes, and practices (see Appendix online).

The introduction section informed participants of the nature of the study and its relevance to them, as well as providing key working definitions of terms used in the questionnaire. Although a variety of terms are used interchangeably in the literature, we took care to define peer mentorship among students as a relationship in which the senior student guides and supports the junior student.^{11,12,14} Our purpose was to distinguish mentorship from other terms such as *preceptorship* or *apprenticeship* (a period of practical experience and training for a student, supervised by an expert or specialist in a particular field) and *tutorship* (teaching of a specific technical skill and provision of remedial instruction).^{14,27,41} The demographic information section (items 1–10) collected data on participants' sex, age, university, current year in MPT programme, educational background, aspirations relating to professional practice, and personal experience with peer mentorship relationships. Because *knowledge*

means an understanding gained through study or experience,^{37,39,41} items in this section (items 11–16) inquired about resources, training, personal skills in using peer mentorship resources, and self-rated understanding of key concepts relating to peer mentorship. The next section of the questionnaire (items 17–30) inquired about personal attitudes toward, use of, and perceived benefits and limitations of peer mentorship; *attitude* was defined as the degree to which an individual likes or dislikes an item.^{37,39,41} The final section (items 31–34) examined peer mentorship *practices*, that is, carrying out or engaging in an activity,^{37,39,41} such as the number of times specific peer mentorship activities were carried out during a typical month and various modes of practice delivery. Finally, an open-ended question invited participants to add further detail to their responses (item 35). For the majority of items, respondents indicated their level of agreement with a statement on a 5-point Likert scale. Prior to data collection, we piloted the questionnaire with 10 individuals, including recent MPT graduates and physiotherapists with experience in the field of peer mentorship, to enhance its clarity, ease of use, and face validity.

Delivery of the questionnaire used a modified Dillman approach^{42,43} to maximize response rate while maintaining anonymity. Potential participants received an introductory e-mail invitation giving research information, consent and anonymity processes, and a link to the questionnaire. Two weeks later, a reminder/thank-you e-mail was sent, which included a deadline for participation. A final e-mail was sent to thank all potential participants 2 weeks later. Because of variability in the time needed to obtain administrative consent and in other factors (e.g., reading weeks, academic schedules, absence of university designates), data collection continued from February to April 2010. Electronic data were password protected and stored on one computer. A summary of results was sent to all participating universities upon completion of the study.

Data Analysis

Data were analyzed using the Statistical Package for the Social Sciences, Version 18.0 for Mac (SPSS Inc., Chicago, IL). All closed-ended questionnaire responses were coded; 10 participant responses from each questionnaire item were verified manually to ensure data accuracy and quality. Descriptive statistics were chosen to describe characteristics of participants and to address the primary objectives. Descriptive summaries and frequency analyses were performed and displayed in tabular and graphic formats. To examine associations between key categorical variables of knowledge, attitudes, and practices, chi-square tests were conducted for the analytical cross-tabulations. Significance was set at $p < 0.05$ (2-tailed).

Before examining the relationships among demo-

graphics, knowledge, attitudes, and practices, we collapsed the response categories for these variables due to small cell responses. For positively worded statements, we followed other authors^{39,40} by combining the “strongly agree” and “agree” categories to form an “agree” category and the “neutral,” “disagree,” and “strongly disagree” categories to form a “disagree” category. For item 16, which addressed respondents’ understanding of terms related to peer mentorship, “do not understand” and “understand somewhat” were combined, so that results for this item were dichotomous: “do not understand” versus “understand completely.” The response categories for participation in a peer mentorship programme in a typical month were collapsed into a dichotomous choice between 0 and 1+ times in a typical month, because low rates were reported for the higher-frequency options. We aggregated responses to the open-ended question (item 35), highlighting common areas of agreement and explanations for participants’ ratings, and used them to complement the quantitative data.

RESULTS

Eight of the 10 eligible universities (80%) consented to participate in the study; 945 Canadian MPT students therefore received invitations to complete the survey. A total of 260 MPT students responded to the online questionnaire, for a response rate of 27.5%.

Respondent Characteristics

The majority of respondents were female (81.2%), and the dominant age group was 20–24 years (62.7%). There was nearly equal representation of first-year (47.1%) and second-year (52.9%) MPT students; 92.3% reported obtaining a baccalaureate degree before enrolment. Characteristics of study participants are summarized in Table 1. The largest percentage of respondents expressed a desire to practice in a private facility (42.7%), in an urban location (53.7%), and in the area of orthopaedics (47.7%) on completing their degree. Most respondents did not have any experience in a peer mentorship relationship, either as part of their PT programme (68.7%) or outside the programme (66.2%).

Knowledge

Few respondents (5.4%) reported receiving formal training on peer mentorship within the PT curriculum. A small percentage (21.3%) had received formal training outside the curriculum; the majority (65.9%) had not. Table 2 presents the percentage of respondents by response category for items examining knowledge about peer mentorship. Less than one-quarter of respondents (23.7%) either agreed or strongly agreed that they were able to access relevant resources about peer mentorship within their PT programme; 40.8% were neutral, and 35.5% disagreed or strongly disagreed. The majority of respondents chose a neutral response (44.4%) with respect to their ability to access relevant resources at

Table 1 Characteristics of Respondents

Characteristics	No. of respondents and (%)
Sex	
Male	49 (18.8)
Female	211 (81.2)
Age, y	
20–24	163 (62.7)
25–29	80 (30.8)
30–34	10 (3.8)
35–39	3 (1.2)
40+	4 (1.5)
University	
University of Alberta	45 (17.4)
University of British Columbia	29 (11.2)
Dalhousie University	22 (8.5)
McMaster University	25 (9.7)
Queen’s University	50 (19.3)
University of Saskatchewan	19 (7.3)
University of Toronto	40 (15.4)
University of Western Ontario	29 (11.2)
Current year of master’s degree	
Year 1	121 (47.1)
Year 2	136 (52.9)
Previous degree obtained	
Certificate	7 (2.7)
Baccalaureate	239 (92.3)
Master’s	15 (5.8)
Doctorate	1 (0.4)
Other	2 (0.8)
Career aspirations	
Desired type of facility	
Acute-care hospital	24 (9.2)
Rehabilitation centre	60 (23.1)
Long-term care facility	3 (1.2)
Private practice facility/clinic	111 (42.7)
Home care	2 (0.8)
School system	4 (1.5)
Government organization	2 (0.8)
University	2 (0.8)
Other	2 (0.8)
Unsure	50 (19.2)
Desired practice location	
Urban (>100,000 people)	138 (53.7)
Small town (10,000–100,000 people)	72 (28)
Rural (<10,000 people)	18 (7)
Remote	0 (0)
International	5 (1.9)
Unsure	24 (9.3)
Desired area of practice	
Cardiorespiratory/pulmonary	5 (1.9)
Neurological	38 (14.6)
Orthopaedics	124 (47.7)
Geriatrics	5 (1.9)
Paediatrics	22 (8.5)
Mental health	1 (0.4)
Academic	1 (0.4)
Administration	0 (0)
Other	2 (0.8)
Unsure	62 (23.8)
Peer mentorship experience	
Current experience <i>in PT curriculum</i>	
No	178 (68.7)
Yes, as a mentor	35 (13.5)
Yes, as a mentee	40 (15.4)
Yes, as both	6 (2.3)
Past experience <i>outside PT curriculum</i>	
No	172 (66.2)
Yes, as a mentor	33 (12.7)
Yes, as a mentee	24 (9.2)
Yes, as both	31 (11.9)

their university (e.g., through student programmes or the library). Less than half of respondents either agreed (33.2%) or strongly agreed (5.4%) that their university programme supports the integration of peer mentorship into the PT curriculum. Students’ self-evaluated understanding of technical terms associated with peer mentorship is presented in Figure 1; goal setting and communication skills were primarily perceived as “completely understood,” while all other terms were perceived mainly as “somewhat understood.”

Attitudes

Respondents reported generally positive attitudes toward peer mentorship (see Figure 2); a majority said they agree (48.6%) or strongly agree (17.3%) that including peer mentorship in the MPT curriculum is important and are interested in learning or improving the skills necessary to incorporate peer mentorship during their MPT programme (53% agreed, 11% strongly agreed). Furthermore, the majority of respondents regard peer mentorship as a valuable tool for the advancement of the PT profession (61.6% agreed, 20.1% strongly agreed); for assistance with academic learning needs (58.4% agreed, 18.7% strongly agreed); for learning in clinical internships/placements (54.3% agreed, 35.2% strongly agreed); to prepare for the transition from student to professional (55.5% agreed, 28.6% strongly agreed); and for personal growth (55.5% agreed, 28.6% strongly agreed). Only 23.2% agreed and 2.7% strongly agreed that they have sufficient time to incorporate peer mentorship, while 26.5% agreed and 3.7% strongly agreed that they needed to be involved in a peer mentorship relationship during their MPT degree.

Respondents showed overall agreement with the benefits of peer mentorship during their MPT programme but were ambivalent about the challenges. Responses to items relating to benefits of and barriers to peer mentorship during a MPT degree are represented in Figures 3 and 4. Respondents ranked the top three benefits as facilitation of professional skill development, adaptation to the university environment, and promotion of academic success; the top three barriers were lack of time, lack of support from their PT university programme, and lack of personal interest.

Practices

In a typical month, most respondents did not participate (52.5%) or participated one to five times (41.9%) in a peer mentorship relationship. The majority (94%) did not read or review literature on peer mentorship. More than half (56%) reported not engaging in a peer mentorship relationship to assist with PT-specific learning needs, whereas 38.9% did so one to five times during a typical month. The frequency of peer mentorship practices during a typical month is shown in Figure 5.

Finally, respondents were asked what means they used to engage in peer mentorship. The modes used

Table 2 Self-Reported Perceptions of Knowledge Items Regarding Peer Mentorship

Item	Percentage of respondents				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I received formal training about peer mentorship as part of my PT curriculum*	36.1	41.1	17.4	5.4	0
I received formal training about peer mentorship outside of my academic curriculum in PT †	32.1	33.8	12.9	17.1	4.2
I have the ability to access relevant resources about peer mentorship within my PT department †	11.7	23.8	40.8	22.9	0.8
I have the ability to access relevant resources about peer mentorship at my university facility*	6.6	9.1	44.4	36.1	3.7
My university program supports the integration of peer mentorship as part of my academic curriculum in PT*	5.4	19.5	36.5	33.2	5.4

* $n = 241$.

† $n = 240$.

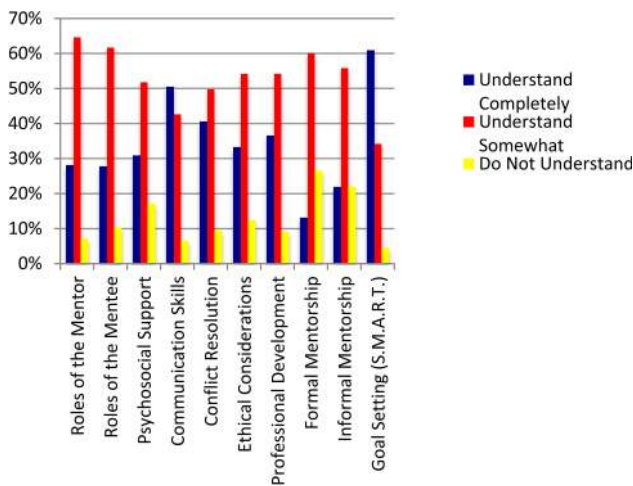


Figure 1 Self-reported Understanding of Terms Associated with Peer Mentorship ($n = 241$).

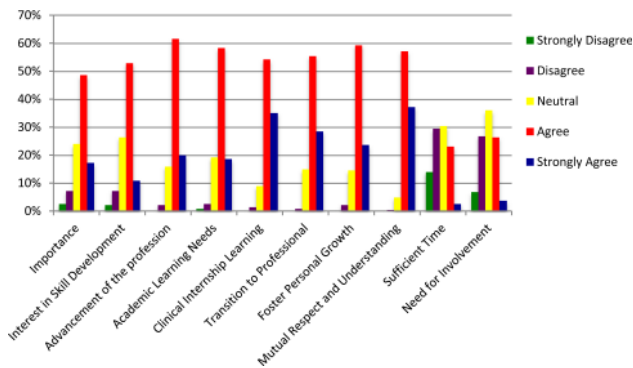


Figure 2 Self-reported attitudes toward peer mentorship ($n = 220$).

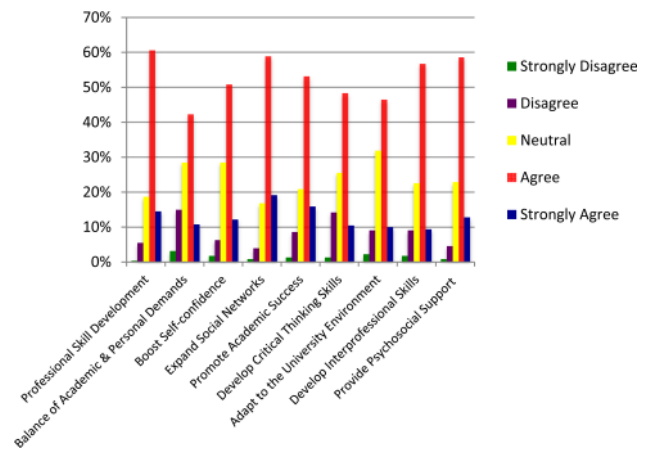


Figure 3 Perceived benefits of peer mentorship ($n = 220$).

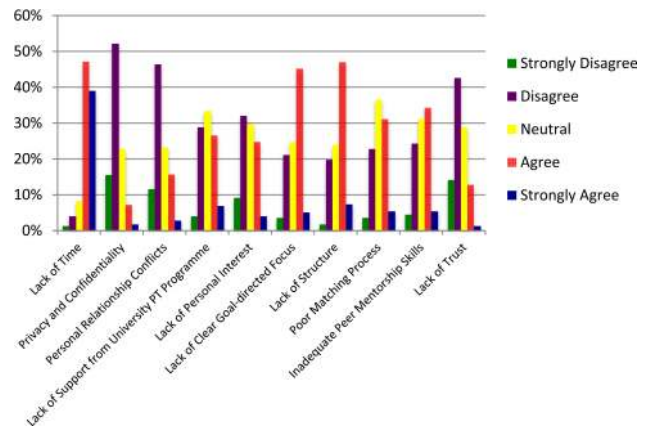


Figure 4 Perceived barriers to peer mentorship ($n = 218$).

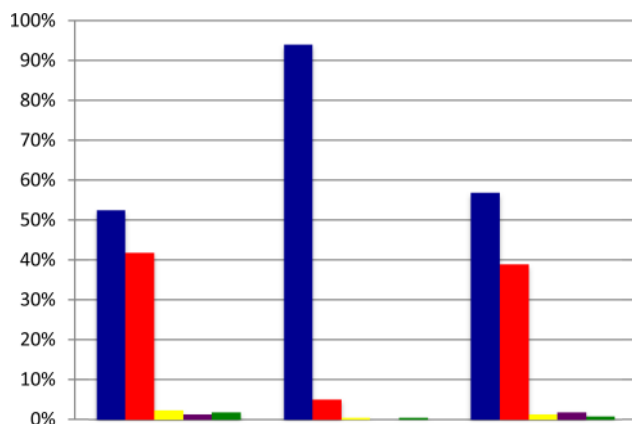


Figure 5 Peer mentorship (PM) practices during a typical month (n = 217).

most frequently were e-mail (87/208, 41.8%), in-person meetings (77/208, 37.0%), Web-based networking (46/208, 22.1%), and telephone discussions (17/208, 8.2%).

Relationships among Demographics, Knowledge, Attitudes, and Practices

There was a significant association between year of academic training and mentorship practice (see Table 3). Participants in year 2 were more likely than year 1 students to be currently involved in a peer mentorship programme, both within the PT programme ($\chi^2 = 9.7, p = 0.002$) and outside it ($\chi^2 = 8.4, p = 0.004$). The findings suggest that in a typical month, year 2 students engage in peer mentorship activities more frequently than year 1 students do ($\chi^2 = 2.8, p = 0.09$). Individuals who reported a more positive attitude toward peer mentorship were more likely to engage in peer mentorship practices; for example, those who said that peer mentorship is important were more likely to be mentees ($\chi^2 = 10.14, p = 0.001$) or mentors ($\chi^2 = 5.0, p = 0.025$); to be engaged in peer mentorship within the PT programme ($\chi^2 = 14.5, p \leq 0.001$); and to practice peer mentorship more frequently in a typical month ($\chi^2 = 8.4, p = 0.004$). Students who agreed that there is a need for involvement in peer mentorship were more likely to be currently involved in a peer mentorship relationship within the PT programme ($\chi^2 = 11.1, p = 0.001$), to serve as a mentor ($\chi^2 = 4.7, p = 0.031$), or to be a mentee ($\chi^2 = 7.8, p = 0.005$).

Common responses to the open-ended question (item 35) included a general interest in peer mentorship; participants said they consider peer mentorship helpful and valuable. For example, peer mentorship was identified as helpful in the transition from student to professional practice. Participants also highlighted several barriers to practising peer mentorship, however, such as

time constraints and a perceived lack of support from faculty.

DISCUSSION

This is the first study to describe Canadian MPT students’ knowledge, attitudes, and practices relating to peer mentorship. Demographic characteristics of the study sample are representative of current demographics in the Canadian PT workforce, where the majority of physiotherapists are female (78%);² the sample’s female:male ratio of 81.2%:18.8% also echoes the ratio in Canadian university PT programmes.^{44,45} Most respondents held a bachelor’s degree, the admission requirement for 2-year Canadian MPT programmes.^{4–6} Practice aspirations reflect current practice trends in Canada, where most physiotherapists are employed in private-practice settings (52.8%), in urban locations (92%), and in the field of orthopaedics (42%).²

Responses indicated a lack of understanding of technical terms associated with peer mentorship, such as *roles of the mentor*, *roles of the mentee*, and *formal mentorship*. This deficit may reflect the lack of peer mentorship training reported by participants. Studies in nursing and occupational therapy have reported that mentors and mentees often feel they need more training, protected time, and education to clarify the roles and responsibilities associated with mentorship.^{12,29} Peer mentorship training and activities could help MPT students to become more knowledgeable about concepts such as *ethical considerations* and *conflict resolution*. These activities could potentially prove valuable in health care environments where physiotherapists work as part of a team, both with clients and with other health care providers.

Most respondents said they were not able to access relevant resources about peer mentorship within their PT programme or university facility. University or institutional support for peer mentorship, consistently identified in the literature as key to success,^{3,12,29,30,36} was reported to be lacking by study respondents. Efficient access to information creates an environment conducive to learning, in which students play an active role and are empowered by their education.^{36,39} Since our findings show that MPT students are interested in learning about peer mentorship, it may be of great value for universities to make resources more readily accessible to optimize the learning environment for these students. Sprengel and Job clearly emphasized that the success of peer mentoring for students depends on the extent of their preparation and recommended that faculty teach students the foundations of mentoring and be readily available for support.¹¹ Enhanced preparedness leads to more positive experiences and more effective peer mentorship partnerships.¹¹ Our findings highlight the need for universities to respond to Canadian MPT students’ current

Table 3 Relationship between Demographics, Knowledge, Attitudes, and Practices

Variables	χ^2 statistic	<i>p</i> -value
Year of Training (<i>Year 1, Year 2</i>)		
Knowledge (<i>Understand, Do Not Understand</i>)		
Role of mentee	1.8	0.19
Role of mentor	1.3	0.25
Attitude		
Importance (<i>Agree, Disagree</i>)	0.6	0.44
Need (<i>Agree, Disagree</i>)	2.5	0.12
Behaviour		
Practice in PT (<i>Yes, No</i>)	9.7	0.002*
Practice out PT (<i>Yes, No</i>)	8.4	0.004*
Act as mentor (<i>Yes, No</i>)	43.1	<0.001†
Act as mentee (<i>Yes, No</i>)	2.6	0.11
PM frequency in month (<i>0, 1+ times</i>)	2.8	0.09
Importance (<i>Agree, Disagree</i>)		
Knowledge (<i>Understand, Do Not Understand</i>)		
Role of mentee	2.3	0.13
Role of mentor	0.2	0.64
Behaviour		
Practice in PT (<i>Yes, No</i>)	14.5	<0.001†
Practice out PT (<i>Yes, No</i>)	0.9	0.33
Act as mentor (<i>Yes, No</i>)	5.0	0.025‡
Act as mentee (<i>Yes, No</i>)	10.1	0.001*
PM frequency in month (<i>0, 1+ times</i>)	8.4	0.004*
Attitude		
Need for involvement (<i>Agree, Disagree</i>)	36.1	<0.001†
Need for Involvement (<i>Agree, Disagree</i>)		
Knowledge (<i>Understand, Do Not Understand</i>)		
Role of mentee	3.4	0.07‡
Role of mentor	1.7	0.19
Behaviour		
Practice in PT (<i>Yes, No</i>)	11.1	0.001*
Practice out PT (<i>Yes, No</i>)	1.0	0.33
Act as mentor (<i>Yes, No</i>)	4.7	0.031‡
Act as mentee (<i>Yes, No</i>)	7.8	0.005*
PM frequency in month (<i>0, 1+ times</i>)	2.0	0.15

**p* < 0.01.†*p* < 0.001.‡*p* < 0.05.

PM = peer mentorship.

lack of knowledge, training, and access to resources associated with peer mentorship.

One of our main findings is that Canadian MPT students have generally positive attitudes toward peer mentorship and that those with positive attitudes are more likely to be practising peer mentorship in PT. This finding concurs with most of the existing evidence supporting the concept of peer mentorship.^{12,15,29,30,33,36,46–48}

Our respondents perceive peer mentorship as important and are interested in learning skills to incorporate peer mentorship during their MPT programme, which suggests that MPT students would support peer mentorship programming initiatives. The majority of respondents agreed that peer mentorship could assist them with their academic learning needs, and nearly all agreed that peer mentorship can assist with clinical internship learning.

This finding is consistent with those of studies in nursing clinical education focusing on the application of mentorship within the practice setting.^{29,31} A study with occupational therapy students further highlighted that mentoring within a curriculum can help students connect theory to practice.¹² Students can coach one another toward a better understanding of theoretical concepts, which can help them achieve higher-level clinical problem solving.³⁶ Peer mentorship skills could prove fundamental for MPT students and for teamwork in the health care field.⁴⁹

For the practising physiotherapist, skills gained from peer mentorship at the student level can potentially lead to enhanced inter-professional cooperation. As a member of the health care team, the student could develop an ability to integrate feedback to enhance clinical outcomes.^{19,36,50,51} Furthermore, peer mentorship could be a strategy for students to gain a solid understanding of their own profession and scope of practice, so as to become full, productive members of an inter-professional team.^{27,49,51} This understanding is crucial in the context of the Canadian health care system and the drive for inter-professional care and education.

Interestingly, one respondent commented on the strength of peer mentorship in a clinical context, referring to students helping each other in a non-intimidating way so that the junior student learns skills “with less apprehension than with a polished clinical instructor” while the “senior student develops teaching skills” for the future. This idea that peer mentoring is “non-intimidating” is supported in the nursing literature, where peer mentoring has been found to create a supportive, non-evaluative, and non-threatening environment in which students are committed to each other’s growth.¹¹ In medical education, Ramani and colleagues have noted that peer mentors understand day-to-day problems related to workload stress or conflicts with teachers and may feel more open to sharing their challenges with peers than to sharing them with a faculty member.³⁰

The majority of MPT student respondents (82%) agreed that peer mentorship is a valuable tool for advancing the PT profession. This finding is consistent with those of a study by Takeuchi and colleagues, in which novice physiotherapists identified peer mentorship as critical to professional success; the authors further noted that receiving mentorship facilitated and improved patient outcomes and career decision making, while giving mentorship advanced the profession.³⁴ It has been reported that students who have positive experiences with peer mentorship can carry their skills forward into their careers and may be more likely to serve as mentors.¹¹ Our study identified a significant association between the importance ascribed to peer mentorship and the perceived need for involvement in mentorship activities; MPT graduates skilled in peer mentorship might therefore be more willing to supervise

students, teach future generations, and share their knowledge with peers, both advancing the profession and developing stronger professional relationships.

Canadian MPT students also overwhelmingly (84%) felt that peer mentorship could help them prepare for the transition from student to health care professional. Similarly, in a 2002 survey of new PT graduates by Suter and colleagues, 90% of respondents expressed a desire to be involved in a mentorship programme as they took on their professional roles.³⁵ Students feel they need this support to ease their transition to competent practising physiotherapists.¹⁴ Research has also recognized the essential role of peer mentorship in preparing students to become competent and confident practitioners.²⁹ Based on our findings, we recommend that PT programmes and associations facilitate this process, recognizing the value and efficacy of peer mentorship.

Similar to previous studies, we found that the primary barriers to peer mentorship for MPT students were lack of time, lack of support from the university PT programme, and lack of personal interest.^{11,12,23,29} The literature cautions that simply assigning two learners to work together does not necessarily produce a successful mentorship experience.³⁶ Lack of time can adversely affect the achievement of learning objectives.²⁹ Key components that foster effective and dynamic peer mentorship relationships are commitment from the mentor, mentee, and organization; trust and confidentiality; and collaborative goal setting.^{14,30,31,36,52} Themes from the open-ended responses complement our findings with respect to barriers: students noted that time constraints and overburdening are concerns, that the will of participants determines the success of peer mentorship, and that they fully value mentorship but would need organizational support to enable it. Universities and PT professional associations with student memberships should respond to the needs of students and support members who are challenged by the fast-paced 2-year MPT programme. Canadian MPT students require assistance to overcome barriers, optimize benefits, and facilitate the practice of peer mentorship.

More than half of respondents in our study had neither participated in a peer mentorship relationship nor used such a relationship to meet PT-specific learning needs during a typical month. This level of involvement is not surprising, given the lack of reported experience in peer mentorship relationships and the paucity of mentorship programming in Canadian MPT curricula. The fact that 94% of respondents did not read or review literature in the peer mentorship field may explain their incomplete understanding of terms associated with peer mentorship; it may also be related to students’ perceived efficiency in accessing information,³⁹ as most respondents felt they were not able to access resources within their department or university facility. Lastly, the means by which peer mentorship practices were most frequently

undertaken appear to be practical and to reflect this student generation: e-mail and social networking are popular channels of communication for students,⁵³ while in-person meetings may be most convenient for those who are studying in the same environment. In summary, Canadian MPT students currently engage in peer mentorship practices infrequently, and this may be the result of a lack of available programming.

Our study has several limitations. First, like any survey research, our study may have been subject to response bias: respondents may have had more interest in peer mentorship than non-respondents, which would contribute to an overestimation of the percentage of MPT students with positive attitudes toward peer mentorship. The response bias cannot be assessed, as there are no data about non-respondents. The support for and interest in peer mentorship expressed by our respondents, however, is fairly similar to that documented in published work in other fields.^{29,54,55}

The response rate of 27.5% is also a potential limitation of our study;^{43,54–56} however, this response rate compares well with those of other online surveys^{56,57} and of studies performed with students or physiotherapists.^{29,58} The study sample size of 260 is also deemed appropriate in survey research for further statistical analysis.^{59,60} Given the large sample size achieved and the fact that respondents had similar demographic characteristics to the majority of Canadian MPT students,^{44,45} we feel it is probable that our study sample was representative.

The lack of formal reliability and validity testing of the questionnaire could represent a limitation of the study; there may have been differences in how respondents interpreted questionnaire items. To mitigate this possibility, we developed the questionnaire from pre-tested formats examining concepts of knowledge, attitudes, and practices within a PT population^{39,40} and pilot-tested it before using it in the study.

Our findings indicate potential associations among several variables, including practice aspirations, peer mentorship experience, interest and need, knowledge and practices. Because of the cross-sectional nature of the design, causal conclusions cannot be drawn. Future research should include a qualitative component and open-ended questions to provide an opportunity for confirmation of researchers' interpretation and insight into the participants' rationale for their responses.

CONCLUSION

Our sample of Canadian MPT students expressed interest in peer mentorship and reported that they consider it important. Barriers such as lack of support, lack of training, and time constraints may impede their ability to practise peer mentorship. This study is the first investigation and description of peer mentorship among Canadian MPT students; our findings are consistent with

those of previous mentorship research in other fields, and the results documented provide data and a sound rationale to support peer mentorship programming for MPT students. The study highlights the need for further support by Canadian university programmes and professional associations to foster successful peer mentorship relationships by providing a nurturing environment, overcoming perceived barriers, and promoting commitment among faculty and students.

KEY MESSAGES

What Is Already Known on This Topic

The concept of mentorship has been thoroughly explored in the literature, but primarily in the business and nursing fields. Peer mentorship has been shown to support both professional and psychosocial growth. In physiotherapy, novice and newly graduated physiotherapists have identified peer mentorship as critical to professional success and to easing the transition from student to clinician. The Canadian Physiotherapy Association has designed a peer mentorship programme to respond to the needs of practising physiotherapists; no peer mentorship programme exists for Canadian MPT students, however, and their needs remain unstudied.

What This Study Adds

This is the first study to describe Canadian MPT students' knowledge, attitudes, and practices with respect to peer mentorship. There is currently a lack of both knowledge and practice of peer mentorship among MPT students. MPT students support the concept of peer mentorship, recognizing that it can help them meet academic and clinical learning needs, can be a valuable tool to advance the profession, and can help with the transition from student to professional. MPT students perceive peer mentorship as beneficial in developing professional skills, adapting to the university environment, and promoting academic success. Lack of time, lack of support from their PT programme, and lack of personal interest are important barriers to participation and should be considered in programme development. It is recommended that universities and physiotherapy professional associations provide a nurturing environment for peer mentorship and structure to overcome barriers, promote commitment, and foster successful participation.

REFERENCES

1. Canadian Institutes for Health Information [Internet]. Workforce trends of physiotherapists in Canada, 2007. Ottawa: The Institutes; 2008 [cited 2010 Jan 8]. Available from: http://secure.cihi.ca/cihiweb/products/Workforce_Trends_of_Physiotherapists_2007.pdf
2. Canadian Institutes for Health Information [Internet]. Physiotherapists in Canada, 2008. Ottawa: The Institutes; 2009 [cited 2010 Feb 12]. Available from: http://secure.cihi.ca/cihiweb/products/PT_report_2008_en.pdf
3. Bohannon RW. Mentorship: a relationship important to professional development. A special communication. *Phys Ther.* 1985;65(6):920–3. Medline:4001172

4. Canadian Physiotherapy Association [homepage on the Internet]. Ottawa: The Association; n.d. [cited 2010 Jan 12]. Available from: <http://www.thesehands.ca>
5. McMaster Physical Therapy Program [homepage on the Internet]. Hamilton (ON): McMaster University; 2010 [cited 2010 July 18]. Available from: <http://www.srs-mcmaster.ca/Programs/MScPT/CourseListing/tabid/1575/Default.aspx>
6. University of Toronto Physical Therapy Program [Internet]. Toronto; 2010 [cited 2010 July 18]. Available from: <http://www.physicaltherapy.utoronto.ca/prospect/program.htm>
7. Solomon P, Ohman A, Miller P. Follow-up study of career choice and professional socialization of physiotherapists. *Physiother Can*. 2004;56(2):102–10. doi:10.2310/6640.2004.00006
8. Solomon P, Miller P. Qualitative study of novice physical therapists' experiences in private practice. *Physiother Can*. 2005;57(3):190–8. doi:10.3138/ptc.57.3.190
9. Foster-Seargent E. The lived experience of new graduate physiotherapists in the first year of practice: mentorship and program management [PhD Thesis]. Thunder Bay (ON): Lakehead University; 2001.
10. Rogers J, Monteiro FM, Nora A. Toward measuring the domains of mentoring. *Fam Med*. 2008;40(4):259–63. Medline:18382838
11. Sprengel AD, Job L. Reducing student anxiety by using clinical peer mentoring with beginning nursing students. *Nurse Educ*. 2004;29(6):246–50. doi:10.1097/00006223-200411000-00010. Medline:15586121
12. Milner T, Bossers A. Evaluation of an occupational therapy mentorship program. *Can J Occup Ther*. 2005;72(4):205–11. Medline:16252607
13. Kram KE, Isabella LA. Mentoring alternatives: the roles of peer relationships in career development. *Acad Manage J*. 1985;28(1):110–32. doi:10.2307/256064
14. King J. Mentorship [inservice education] Ottawa: The Ottawa Hospital; 2008.
15. Canadian Nurses Association [Internet]. Achieving excellence in practice: a guide to preceptorship and mentoring. Ottawa: The Association; 2004 [cited 2010 June 20]. Available from: http://www.cnaa.ca/CNA/nursing/education/mentorship/default_e.aspx
16. Gibb A. Creating conducive environments for learning and entrepreneurship: living with, dealing with, creating and enjoying uncertainty and complexity. *Ind High Educ*. 2002;16(3):135–48. doi:10.5367/00000002101296234
17. Hawkey K. Roles, responsibilities, and relationships in mentoring: a literature review and agenda for research. *J Teach Educ*. 1997;48(5):325–35. doi:10.1177/0022487197048005002
18. Glanz K, Rimer B, Viswanath K, eds. Health behavior and health education: theory, research and practice. 4th ed. San Francisco: Jossey-Bass; 2008.
19. King J. Reflective practices [inservice education] Ottawa: The Ottawa Hospital; 2009.
20. Donaghy M, Morss K. Guided reflection: a framework to facilitate and assess reflective practice within the discipline of physiotherapy practice. *Physiother Theory Pract*. 2000;16(1):3–14. doi:10.1080/095939800307566
21. Chao GT, Walz P, Gardner PD. Formal and informal mentorships: a comparison on mentoring functions and contrast with non-mentored counterparts. *Person Psychol*. 1992;45(3):619–36. doi:10.1111/j.1744-6570.1992.tb00863.x
22. Sweeny B. Is informal or formal mentoring needed? [Internet]. International Mentoring Association; 2001 [cited 2009 Oct 15]. Available from: <http://mentoring-association.org>
23. Sawatzky JA, Enns CL. A mentoring needs assessment: validating mentorship in nursing education. *J Prof Nurs*. 2009;25(3):145–50. doi:10.1016/j.profnurs.2009.01.003. Medline:19450785
24. Watson S. Mentor preparation: reasons for undertaking the course and expectations of the candidates. *Nurse Educ Today*. 2004;24(1):30–40. doi:10.1016/S0260-6917(03)00119-9. Medline:14690642
25. Thompson C. How to start a peer mentor program development [Internet]. 2009 [cited 2009 Oct 17]. Available from: http://www.ehow.com/how_2304420_start-peer-mentor-program.html
26. Klases K, Clutterbuck D. Mentor and mentee characteristics and responsibilities. In: Klases K, Clutterbuck D. Implementing mentoring schemes: a practical guide to successful programmes. Burlington: Butterworth-Heinemann; 2002. p. 149–68.
27. King J. Mentorship: roles and expectations [inservice education] Ottawa: The Ottawa Hospital; 2008.
28. Allen T, Eby L, O'Brien K, et al. The state of mentoring research: A qualitative review of current research methods and future research implications. *J Vocat Behav*. 2008;73(3):343–57. doi:10.1016/j.jvb.2007.08.004
29. Myall M, Levett-Jones T, Lathlean J. Mentorship in contemporary practice: the experiences of nursing students and practice mentors. *J Clin Nurs*. 2008;17(14):1834–42. doi:10.1111/j.1365-2702.2007.02233.x. Medline:18578757
30. Ramani S, Gruppen L, Kachur EK. Twelve tips for developing effective mentors. *Med Teach*. 2006;28(5):404–8. doi:10.1080/01421590600825326. Medline:16973451
31. Gray MA, Smith LN. The qualities of an effective mentor from the student nurse's perspective: findings from a longitudinal qualitative study. *J Adv Nurs*. 2000;32(6):1542–9. doi:10.1046/j.1365-2648.2000.01606.x. Medline:11136424
32. Levy BD, Katz JT, Wolf MA, et al. An initiative in mentoring to promote residents' and faculty members' careers. *Acad Med*. 2004;79(9):845–50. doi:10.1097/00001888-200409000-00006. Medline:15326007
33. Allen TD, Eby LT, Poteet ML, et al. Career benefits associated with mentoring for protégés: a meta-analysis. *J Appl Psychol*. 2004;89(1):127–36. doi:10.1037/0021-9010.89.1.127. Medline:14769125
34. Takeuchi R, O'Brien MM, Ormond KB, et al. Moving forward: success from a physiotherapist's point of view. *Physiother Can*. 2008;60(1):19–29. doi:10.3138/physio/60/1/19. Medline:20145739
35. Suter L, Dunford M, Ellis L, et al. Support systems to ease the transition from student to physical therapist. Abstract, World Congress of Physical Therapy; Barcelona, Spain; 2003.
36. Ladyshevsky RK. Building cooperation in peer coaching relationships: understanding the relationships between reward structure, learner preparedness, coaching skill and learner engagement. *Physiotherapy*. 2006;92(1):4–10. doi:10.1016/j.physio.2005.11.005.
37. Kaliyaperumal K. Guideline for conducting a knowledge, attitude, and practice (KAP) study. *Community Ophthalmology*. 2004;4(1):7–9.
38. What is a KAP study? [Internet] 2010 [cited 2010 June 30]. Available from: http://files.dnr.state.mn.us/assistance/grants/community/6kap_summary.pdf
39. Jette DU, Bacon K, Batty C, et al. Evidence-based practice: beliefs, attitudes, knowledge, and behaviors of physical therapists. *Phys Ther*. 2003;83(9):786–805. Medline:12940766
40. Salbach NM, Jaglal SB, Komer-Bitensky N, et al. Practitioner and organizational barriers to evidence-based practice of physical therapists for people with stroke. *Phys Ther*. 2007;87(10):1284–303. doi:10.2522/ptj.20070040. Medline:17684088
41. Webster's New World College Dictionary [Internet]; 2009 [cited 2009 Oct 15]; [about 3 screens]. Available from: <http://www.yourdictionary.com/about/Websters-New-World-College-Dictionary.html>
42. Dillman D. Mail and Internet surveys—The tailored design method. New York: Wiley; 2000.
43. Dillman D, Bowker D. The web questionnaire challenge to survey methodologies [Internet]. 2001 [cited 2010 June 5]. Available from: <http://www.websm.org>
44. Geddes EL, Wessel J, Williams RM. Ethical issues identified by physical therapy students during their clinical placements. *Physiother Theory Pract*. 2004;20:17–29.

45. Pirraglia D. Demographic data of University of Toronto Master of Physical Therapy students [Online]. E-mail to PT Student Services (ptstudent.services@utoronto.ca); 2010 July 19 [cited 2010 July 20].
46. American Physical Therapy Association [Homepage on the Internet]. Alexandria (VA): The Association; 2010. [cited 2010 June 10]. Available from: <http://www.apta.org>
47. Stewart S. Training modules for the e-mentor. Presentation at CPA Congress; Calgary (AB); 2009 May 28–31.
48. Fox P, Peixoto G, Poonjaji Z, et al. Physiotherapy mentorship initiative in a program-managed, acute care, academic teaching hospital: a qualitative study. Poster presented at CPA Congress; Calgary (AB); 2009 May 28–31.
49. Cross V. Preparing for practice through peer learning. *Physiotherapy*. 2006;92(1):1–3. doi:10.1016/j.physio.2005.11.004.
50. Hayward L, DiMarco R, Kranz T, et al. Telementoring using e-mail: The classroom to co-op connection. *Journal of Cooperative Education*. 2001;36(1):32–47.
51. Parsell G, Bligh J. Interprofessional learning. *Postgrad Med J*. 1998;74(868):89–95. doi:10.1136/pgmj.74.868.89. Medline:9616489
52. Haynes L, Adams SL, Boss JM, and the Hyanes I. Mentoring and networking: how to make it work. *Nat Immunol*. 2008;9(1):3–5. doi:10.1038/ni0108-3. Medline:18087246
53. Pena-Sanchez R. Students and faculty perceptions of communication channels: a survey's reliability and validity. *Review of Business Research* [Internet]. 2008 [cited 2010 July 1]. Available from: <http://www.freepatentsonline.com/article/Review-Business-Research/190699967.htm>
54. Wright KB. Researching internet-based populations: Advantages and disadvantages of online survey research. *J Comput Mediat Commun*. 2005;10(3):11.
55. Andrews D, Nonnecke B, Preece J. Electronic Survey Methodology: A Case Study in Reaching Hard-to-Involve Internet Users. *Int J Hum Comput Interact*. 2003;16(2):185–210. doi:10.1207/S15327590IJHC1602_04.
56. Shih T-H, Fan X. Comparing response rates from web and mail surveys: A meta-analysis. *Field Methods*. 2008;20(3):249–71. doi:10.1177/1525822X08317085
57. Hamilton MB. Online survey response rates and times: Background and guidance for industry [Internet]. 2009. [cited 2009 Oct 18]. Available from: <http://www.supersurvey.com>
58. Andrews AW, Folger SE, Norbet SE, et al. Tests and measures used by specialist physical therapists when examining patients with stroke. *J Neurol Phys Ther*. 2008;32(3):122–8. Medline:18978668
59. Bartlett JE, Kotlik JW, Higgins CC. Organizational research: Determining appropriate sample size in survey research. *Inf Technol Learn Perform J*. 2001;19(1):43–50.
60. Hulley SB, Cummings SR, Browner WS, et al. *Designing clinical research*. 3rd ed. Philadelphia: Lippincott, Williams & Wilkins; 2007.

The Knowledge, Attitudes and Practices of Canadian MPT Students

1. Welcome!

Student peer mentorship is defined as an interpersonal relationship between a senior more-experienced student, the mentor, who provides guidance and support to a junior less-experienced student, the mentee.

Peer mentorship at the Canadian physical therapy student level has yet to be studied. The purpose of this study is to determine the knowledge, attitudes and practices regarding peer mentorship of Canadian Master of Physical Therapy (MPT) students.

Your opinions as a student are important. The survey will take approximately 10 minutes to complete. We have used the term physical therapy (PT) through out, please note this also means physiotherapy.

We value your input and are appreciative of your time in sharing your thoughts with us.

Martine Quesnel, P.T., MScPT Advanced Standing Option Student, University of Toronto

Dr. Cathy Evans, PhD, P.T.

Dr. Judy King, PhD, P.T.

The Knowledge, Attitudes and Practices of Canadian MPT Students

2. Demographic Data

1. What is your sex?

- Male
- Female

2. What is your age group?

- 20-24
- 25-29
- 30-34
- 35-39
- 40+ years

3. Which university are you attending for the Master of PT 2009-2010 academic year?

- | | | |
|--|--|---|
| <input type="radio"/> University of Alberta | <input type="radio"/> McMaster University | <input type="radio"/> University of Toronto |
| <input type="radio"/> University of British Columbia | <input type="radio"/> Queen's University | <input type="radio"/> University of Western Ontario |
| <input type="radio"/> Dalhousie University | <input type="radio"/> University of Ottawa - Université d'Ottawa | |
| <input type="radio"/> McGill University | <input type="radio"/> University of Saskatchewan | |

4. In which year of your Master degree are you currently enrolled?

- Year 1
- Year 2

5. What academic degree(s) have you previously obtained?

- Certificate
- Baccalaureate
- Master
- Doctorate
- Other
- Please specify previous degree(s) obtained:

The Knowledge, Attitudes and Practices of Canadian MPT Students

6. Which of the following BEST describes the type of facility that you would like to work in after graduation?

- Acute Care Hospital
- Rehabilitation Centre
- Long-term Care Facility
- Private Practice Facility/Clinic
- Home Care
- School System
- Government Organization
- University
- Other
- Unsure

7. Which of the following BEST describes the location of the facility in which you intend to practice?

- Urban (>100,000 people)
- Small Town (10-100,000 people)
- Rural (<10,000 people)
- Remote
- International
- Unsure

The Knowledge, Attitudes and Practices of Canadian MPT Students

8. Which of the following BEST describes the area of practice that you would like to work in after graduation?

- Cardiorespiratory / Pulmonary
- Neurological
- Orthopaedics
- Geriatrics
- Pediatrics
- Mental Health
- Academic
- Administration
- Other
- Unsure

9. Are you currently involved in a peer mentorship relationship as part of your PT curriculum?

- No
- Yes, I am a Mentor (provides mentorship)
- Yes, I am a Mentee (receives mentorship)
- Yes, I am both a Mentor and a Mentee

10. Do you have current or past experience in a peer mentorship relationship outside of your PT curriculum?

- No
- Yes, as a Mentor
- Yes, as a Mentee
- Yes, both as a Mentor and a Mentee

The Knowledge, Attitudes and Practices of Canadian MPT Students

3. Knowledge of Peer Mentorship

The following section inquires about your training and access to resources regarding peer mentorship.

11. I received formal training about peer mentorship as part of my PT curriculum (e.g. lectures, workshops, seminars).

Strongly Disagree Disagree Neutral Agree Strongly Agree

12. I received formal training about peer mentorship outside of my academic curriculum in PT (e.g. Big Sister/Bother organizations).

Strongly Disagree Disagree Neutral Agree Strongly Agree

13. I have the ability to access relevant resources about peer mentorship within my Physical Therapy department.

Strongly Disagree Disagree Neutral Agree Strongly Agree

14. I have the ability to access relevant resources about peer mentorship at my university facility (e.g. student programs, university library).

Strongly Disagree Disagree Neutral Agree Strongly Agree

15. My university program supports the integration of peer mentorship as part of my academic curriculum in Physical Therapy.

Strongly Disagree Disagree Neutral Agree Strongly Agree

16. The following question asks about your understanding of terms ASSOCIATED WITH PEER MENTORSHIP. Please indicate the extent to which you understand each term by checking the appropriate box.

	Understand Completely	Understand Somewhat	Do Not Understand
Roles of the Mentor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Roles of the Mentee	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Psychosocial Support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communication Skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conflict Resolution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ethical Considerations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professional Development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Formal Mentorship	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Informal Mentorship	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal Setting (S.M.A.R.T.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The Knowledge, Attitudes and Practices of Canadian MPT Students

4. Attitudes about Peer Mentorship

This section of the questionnaire will ask about your personal attitudes toward, use of, and perceived benefits and barriers of peer mentorship.

17. Inclusion of peer mentorship training is important in the Master of PT curriculum.

Strongly Disagree Disagree Neutral Agree Strongly Agree

18. I am interested in learning or improving the skills necessary to incorporate peer mentorship during my Master of PT degree.

Strongly Disagree Disagree Neutral Agree Strongly Agree

19. I have sufficient time to incorporate peer mentorship into my school curriculum and life during my Master of PT degree.

Strongly Disagree Disagree Neutral Agree Strongly Agree

20. I need to be involved in a peer mentorship relationship during my Master of PT degree.

Strongly Disagree Disagree Neutral Agree Strongly Agree

21. Peer mentorship is a valuable tool for the advancement of the physiotherapy profession.

Strongly Disagree Disagree Neutral Agree Strongly Agree

22. Peer mentorship can assist me with my academic learning needs during my Master of PT training.

Strongly Disagree Disagree Neutral Agree Strongly Agree

23. Peer mentorship can assist with learning in clinical internship / placements.

Strongly Disagree Disagree Neutral Agree Strongly Agree

24. Peer mentorship is based on mutual respect and understanding.

Strongly Disagree Disagree Neutral Agree Strongly Agree

25. Exposure to peer mentorship as a student can assist with preparing me for my transition as a professional.

Strongly Disagree Disagree Neutral Agree Strongly Agree

The Knowledge, Attitudes and Practices of Canadian MPT Students

26. Peer mentorship as a student can help to foster my personal growth.

Strongly Disagree
 Disagree
 Neutral
 Agree
 Strongly Agree

27. To what extent do you agree that each of the following is a BENEFIT of peer mentorship during your Master of PT degree?

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Facilitation of professional skill development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Achieve balance between academic demands and personal life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Boost my self-confidence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Expand my social networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promote academic success	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Develop critical thinking skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adapt to the University environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Develop inter-professional skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide psychosocial support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

28. As a Master of Physical Therapy student, please rank what you feel are the TOP THREE BENEFITS regarding peer mentorship (1 = most beneficial).

	1st choice (most beneficial)	2nd choice	3rd choice
Facilitation of professional skill development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Achieve balance between academic demands and personal life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Boost my self-confidence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Expand my social networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promote academic success	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Develop critical thinking skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adapt to the University environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Develop inter-professional skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide psychosocial support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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29. To what extent do you agree that each of the following is a BARRIER of peer mentorship during your Master of PT degree?

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Lack of time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Privacy and confidentiality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personal relationship conflicts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of support from my Physical Therapy university program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My lack of personal interest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of clear goal-directed focus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of structure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor matching process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inadequate peer mentorship skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of trust	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

30. As a Master of Physical Therapy student, please rank what you feel are the TOP THREE BARRIERS regarding peer mentorship (1 = the greatest barrier).

	1st choice (greatest barrier)	2nd choice	3rd choice
Lack of time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Privacy and confidentiality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personal relationship conflicts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of support from my Physical Therapy university program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My lack of personal interest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of clear goal-directed focus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of structure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor matching process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inadequate peer mentorship skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of trust	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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5. Practices in Peer Mentorship

The following section inquires about the practice of peer mentorship. Please respond as it relates to your experience during your Master of Physical Therapy degree (including school or clinical placement activities).

31. Participation in a peer mentorship relationship during a typical month.

- 0 1-5 times 6-10 times 11-15 times ≥16 times

32. Read/review literature regarding peer mentorship during a typical month.

- 0 1-5 times 6-10 times 11-15 times ≥16 times

33. Use of peer mentorship relationship to assist with PT-specific learning needs during a typical month.

- 0 1-5 times 6-10 times 11-15 times ≥16 times

34. Modes of delivery related to peer mentorship that you participate in during a typical month. (Please check all that apply)

- In-person meetings
 Email
 Networking (Facebook)
 Telephone discussions
 None of the above

Other (please specify)

35. We value any additional comments or feedback you would like to provide us concerning knowledge, attitudes and practices regarding peer mentorship for Canadian Master of Physical Therapy students:

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6. Thank you

Thank you very much for taking the time to complete this questionnaire.

Martine Quesnel, P.T.
Cathy Evans, PhD, P.T.
Judy King, PhD, P.T.