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## **An in-depth analysis of ethics teaching in Canadian Physiotherapy and Occupational Therapy programs**

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### **Abstract (199)**

Purpose: The purpose of this study was to examine current approaches and challenges to teaching ethics in entry-level Canadian physiotherapy (PT) and occupational therapy (OT) programs. Methods: Educators responsible for teaching ethics in the 28 Canadian PT and OT programs (n=55) completed an online survey. Results: The quantity of ethics teaching is highly variable, ranging from 5 to 65 hours. Diverse obstacles to ethics teaching were reported, relating to the organization and structure of academic programs, student issues and the topic of ethics itself. Specific challenges included time constraints, large class sizes, a lack of pedagogical tools adapted to teaching this complex subject, a perceived lack of student interest for the subject and a preference for topics related to clinical skills. Of note, 65% of ethics educators who participated in the survey did not have any specialized training in ethics. Conclusion: Significant cross-program variation in the number of hours dedicated to ethics and the diversity of pedagogical methods used suggests that there is little consensus about how best to teach ethics. Further research on ethics pedagogy in PT and OT programs (i.e., teaching and evaluation approaches, effectiveness of current ethics teaching), would support the implementation of more evidence-based ethics education.

**Keywords:** ethics teaching, pedagogy, curriculum, occupational therapy, physiotherapy, Canada

# 1 **Introduction**

2 Healthcare practitioners' ethical conduct can affect patient care, health outcomes, the  
3 therapeutic relationship and the public's perception of a profession and its members [1].  
4 Physiotherapy (PT) and occupational therapy (OT) professionals often encounter ethical  
5 challenges in their practice, including evolving practice requirements, complex funding  
6 structures, and the need to manage wait lists within a system of limited resources and increased  
7 demands [2-6]. These issues require professionals to develop the capacity to analyze ethically-  
8 charged situations, reason clearly, and enact ethically sound decisions that are aligned with the  
9 profession's values. Codes of ethics can provide ethical guidance to PT and OT professionals,  
10 but when facing an ethical dilemma or challenge, clinicians must also be able to conduct a  
11 critical and reflective analysis [7]. Thus, it is essential to provide future professionals with the  
12 knowledge and tools to effectively address the ethical issues that they will encounter in clinical  
13 practice.

14  
15 The teaching of ethics in health professional programs has received broad support [8], and is  
16 recognized as an essential competency in medicine and the allied health professions [9]. The  
17 guidelines of the World Confederation for Physical Therapy reinforce the necessity of ethics  
18 education in all entry-level programs [10]. The World Federation of Occupational Therapists  
19 position statements also identify ethics (defined as professional ethics, values, responsibility,  
20 attitude and behaviour) as a competency that entry-level occupational therapists should  
21 demonstrate [11]. In Spain, for example, university PT and OT educators consider ethical  
22 commitment to be a fundamental value to be instilled in their students [12].

23  
24 Despite the importance of developing ethics competencies for professionals, there are still very  
25 few studies addressing the state of ethics teaching in entry-level Canadian PT and OT programs

26 [13]. A 1991 survey of PT, OT and speech/language therapy programs in the United Kingdom  
27 revealed little consistency in the understanding of what should be included in an ethics program  
28 or the most appropriate pedagogical methods to be used [14]. In 1994, Brockett replicated the  
29 survey in Canadian OT programs and found that while most included ethics teaching, they  
30 focused on norms of practice and codes of ethics rather than on ethical decision-making skills  
31 [3]. But while norms of practice – such as current laws or codes of ethics – can provide  
32 authoritative guidance about how to act with professionalism [15], students and trainees would  
33 also benefit from ethics education that provides specific training in ethical decision-making.  
34 Thus, ethics educators must ask themselves: Are we providing future PT and OT professionals  
35 with the necessary tools to develop ethical decision-making skills so that they are prepared to  
36 address the ethical issues that they will encounter in clinical practice?

37  
38 It has been argued that a professional's capacity for ethical reasoning may predict clinical  
39 performance, which suggests a relationship between a student's ability to resolve ethical  
40 dilemmas and their capacity to manage other issues that arise in practice [16]. A study by  
41 Swisher and colleagues showed that following a 6-week intensive ethics course, PT students  
42 demonstrated improved ethical reasoning [7]. A longitudinal study in Ontario, Canada, found a  
43 significant evolution in the ethical judgement of PT and OT students during their professional  
44 training, which included a specific ethics education component [17]. In other disciplines, such as  
45 medicine [18,19], an improvement in ethical reasoning following ethics education has also been  
46 demonstrated.

47  
48 Even though most PT curricula include specific objectives aimed at enhancing students'  
49 capacities for ethical reasoning, there is no consensus on the content or approaches required to  
50 best achieve this goal [5,7]. Furthermore, the documents that govern Canadian PT and OT  
51 academic curricula provide only general guidance regarding ethics content, but do not contain

52 detailed requirements regarding the ethical issues or competencies that should be taught  
53 [20,21]. In a recent investigation of online course descriptions, we identified a large variation in  
54 ethics curricula in Canadian PT and OT programs in terms of content, place within the program,  
55 and type of courses [13]. The number of credits allotted to courses with descriptions or titles that  
56 included terminology associated with ethics (e.g., ethics, professionalism, regulation) ranged  
57 from 2.1% to 17.4%. Courses also varied in terms of place in the program (e.g., beginning or  
58 end of curriculum), and the type of course in which ethics content was included (e.g., a specific  
59 course dedicated to ethics or integration within clinical courses or communication courses) [13].  
60 The methodology of reviewing online course descriptions is limited, as these may not accurately  
61 represent the actual course content, objectives or pedagogical approaches [22,23].

62  
63 Finally, there may be barriers to effective ethics teaching and learning, such as students' lack of  
64 clinical experience to fully appreciate the relevance of ethics content and the perception that  
65 ethics is a low priority topic [24]. Ethics teaching is largely unstructured across Canadian  
66 programs [3,25] and limited knowledge exists about the nature and characteristics of current  
67 ethics teaching in Canadian PT and OT University entry-level training programs.

## 69 **Objective**

70 The objectives of this survey were to examine the place of ethics teaching in entry-level  
71 Canadian PT and OT program curricula, to identify and describe pedagogical methods used and  
72 to explore obstacles to ethics teaching.

73

## 74 **Methods**

75 We conducted an online survey (using the Survey Monkey platform) that included 16 closed and  
76 open-ended questions. The survey was created by the researchers based on recent literature

77 about ethics teaching and included questions related to participants' background as ethics  
78 educators, ethics content in their teaching, pedagogical approaches used and obstacles faced.  
79 The survey was then pilot-tested by two members of the research team who are ethics  
80 educators at different universities. Revisions were made to improve clarity, flow and  
81 comprehensiveness. A list of potential participants was generated by a previous study of  
82 individuals responsible for teaching ethics in Canadian PT and OT programs [13], supplemented  
83 by snowball sampling (potential participants were asked to identify other ethics  
84 educators/coordinators/administrative staff who might be interested). A research assistant  
85 emailed and called prospective participants to identify their willingness to participate. An email  
86 was sent to participants approximately two weeks after the first contact to remind them to  
87 complete the survey. The survey was distributed in the winter of 2013 and completed in either  
88 French or English, at the participant's choice. In cases where multiple participants responded  
89 from the same program, we aggregated and analyzed the data by university program. For  
90 example, if a program had many participants, we looked at their descriptive data to identify the  
91 key respondent in relation to ethics teaching (i.e., the specific course they were involved in and  
92 their role: coordinator of a course, main ethics educator, coordinator of the program, lecturer)  
93 and prioritized their answer if there was discordance between the responses. The University of  
94 Montreal Health Research Ethics Board (CERES) approved the project.

95

## 96 **Results**

97 The survey was sent to 103 individuals and was completed by 55 (53.4% participation); at least  
98 one participant per program completed the survey, thus providing a comprehensive mapping of  
99 PT and OT ethics teaching in Canada. Findings relate to the place of ethics in PT and OT  
100 curricula, the training level of ethics educators, the educational approaches used and the  
101 obstacles to ethics teaching encountered by ethics educators.

102

103 Where in the curriculum is ethics being taught?

104 The location of ethics teaching within the curricula and the amount of time dedicated to ethics is

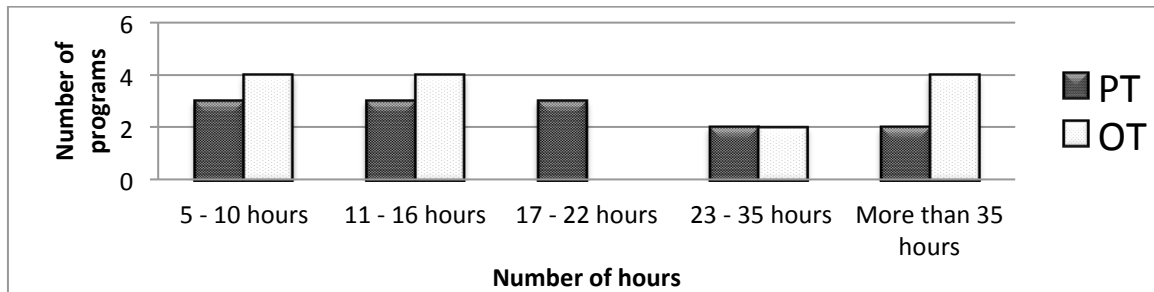
105 highly variable across Canadian university programs. In PT programs, ethics teaching ranges

106 from 5 to 61 hours and in OT programs, from 5 to 65 hours. Two PT and four OT programs

107 teach more than 35 hours in their curricula.

108

109 **Figure 1. Range of hours dedicated to ethics teaching in Canadian programs**



110

111

112 The format of ethics teaching also varied across programs. Some participants reported that their

113 programs teach ethics as a cross-cutting theme throughout the curriculum, while others stated

114 that it was taught as a separate topic with a specific named course. Participants who reported a

115 specific number of hours dedicated to ethics teaching rather than an approximate range tended

116 to teach in programs in which ethics had been mapped across their programs. However, most

117 educators expressed uncertainty about total hours of ethics teaching, not knowing if or where

118 ethics content was included outside of their own courses.

119

120 Who teaches ethics content in Canadian PT and OT programs?

121 Among the 42 participants who teach an ethics course or a course with substantial ethics

122 content, nearly two-thirds (64.29%) do not have post-graduate training in ethics; the others have

123 completed either a graduate course in ethics (21.43%) or a graduate diploma related to ethics  
124 (e.g., PhD in theology, philosophy or bioethics) (13.47%) (Table 1).

125

126 **Table 1. Training level of ethics educators in Canadian PT or OT programs**

Training level in ethics	Teaching in PT	Teaching in OT	Teaching in PT/OT*	Total percentage
No graduate training	10	12	5	64.29%
PhD in ethics	1	2	2	11.09%
Master's in ethics	0	1	0	2.38%
Ethics graduate course	2	3	4	21.43%
<b>Total</b>	<b>13</b>	<b>18</b>	<b>11</b>	<b>100%</b>

127 \* Participants teaching in combined PT/OT courses or to both PT and OT students

128

129 How is ethics taught in Canadian PT and OT programs?

130 The most popular educational approaches are directed reading, lectures and problem based-  
131 learning. These traditional methods are used in nearly all programs. Many other approaches are  
132 widely used including: seminars, case-study analysis, web-based discussions, quizzes, and  
133 interactive student participation methods such as debates, ethics deliberations or role-play  
134 exercises. Some programs also used more innovative educational approaches such as  
135 conceptual maps to illustrate an ethical reflection. Two participants from different universities  
136 reported using experiences during clinical electives as a starting point for ethical reflection and  
137 discussion. Participants also used external resources such as the ethics e-learning module of  
138 the College of Physiotherapists of Ontario<sup>i</sup>, or the Values-Exchange website<sup>ii</sup>. Videos were also  
139 used as a pedagogical tool to illustrate ethical or professionalism issues; one participant used  
140 video clips of professional misconduct as the basis for individual written assignments (Table 2).

141

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<sup>i</sup> <http://www.collegept.org/Resources/ElearningModules/Ethics>

<sup>ii</sup> David Seedhouse website: <http://www.values-exchange.com/>



142

**Table 2. Ethics educational approaches in Canadian PT or OT programs**

Ethics Educational Approaches	PT programs (n=14)	OT programs (n=14)	Total (n=28)	Total percentage
<b>Directed readings</b>	13	14	27	<b>96.4%</b>
<b>Lectures</b>	13	13	26	<b>92.9%</b>
<b>Problem based learning</b>	13	12	25	<b>89.3%</b>
<b>Seminars</b>	7	5	12	<b>42.9%</b>
<b>Student interactions</b>	4	7	11	<b>39.3%</b>
• <i>Debate</i>	1	3		
• <i>Ethics deliberation simulation</i>	3	3		
• <i>Role play</i>	0	1		
<b>Case-studies</b>	1	7	8	<b>28.6%</b>
<b>Web-based discussions</b>	3	4	7	<b>25.0%</b>
<b>Quizzes</b>	2	3	5	<b>17.9%</b>
<b>Other</b>	6	5	11	<b>39.3%</b>
• <i>Inter-professional seminars</i>	1	0		
• <i>Videos</i>	2	1		
• <i>Conceptual maps</i>	0	1		
• <i>Online courses</i>	1	1		
• <i>Student-led presentations</i>	1	0		
• <i>Clinical elective debriefings</i>	1	1		
• <i>Artistic representations</i>	0	1		

143

144 What are the obstacles to teaching ethics?

145 Participants identified diverse obstacles to ethics teaching, which can be divided into three  
 146 categories: 1) organisational factors related to academic programs and their structure, 2) factors  
 147 related to students, and 3) factors related to the topic of ethics itself (Table 3).

148

149 **Table 3. Obstacle to ethics teaching identified by survey participants**

Themes	Obstacles	PT programs	OT programs	Total
<b>Organisational factors</b>	Competition with clinical courses	9	12	<b>21</b>
	Structure of the curricula	9	9	<b>18</b>
	Lack of educator training	3	4	<b>7</b>
	Engaging all educators	3	2	<b>5</b>
	Lack of resources	2	1	<b>3</b>
	Large class sizes	3	0	<b>3</b>
<b>Factors related to students</b>	Lack of clinical experience	3	3	<b>6</b>
	Lack of interest	1	4	<b>5</b>
	Hidden curriculum	1	0	<b>1</b>
	Student background	2	1	<b>3</b>
<b>Factors specific to ethics</b>	Perceived as "just a soft skill"	3	0	<b>3</b>
	Lack of teaching / evaluation tools	2	4	<b>6</b>
	Complex nature	2	4	<b>6</b>
	Lack of recognition	3	1	<b>4</b>

150

151 1) *Organisational factors related to academic programs and their structure*

152 The most frequently reported barrier is the priority given by programs to clinical courses, with  
153 very limited time allotted to ethics. Participants viewed this as problematic given that ethics is a  
154 complex topic that requires time to develop expertise and learn the skills of ethical decision-  
155 making. Program structure is also a significant obstacle for many educators. For example, the  
156 timing of ethics teaching in the curriculum constitutes a challenge for programs with multiple  
157 entry-points (i.e., baccalaureate and master level). When ethics is taught prior to clinical  
158 practice, it is more difficult for students to understand its value, since they have not yet been  
159 exposed to ethical issues related to the practice of their profession. Many participants also  
160 highlighted the lack of a systematic or integrated approach to teaching ethics in their respective  
161 curricula; in some programs, ethics is perceived as a separate, isolated topic and its concepts  
162 are not discussed in other courses.

163  
164 Another obstacle is the lack of resources – both physical and human – required to facilitate  
165 small-group discussions and engage students with innovative pedagogical methods. Also, class  
166 sizes are typically large. One participant expressed: *“Only lecturing is not, to my mind, the best  
167 way of teaching ethics. Students need practice in analysing actual cases. With 80 students it is  
168 difficult to schedule adequate opportunities and time for students to present.”* Other participants  
169 discussed the value of training with other healthcare professional students (e.g., PT and OT in  
170 the same class, or with medical students). While such training would be pertinent for addressing  
171 teamwork and inter-professional ethical issues, in many programs it is difficult to schedule.  
172 Participants also described a lack of specialised ethics training amongst ethics educators:  
173 *“Programs think anyone can teach it [ethics] – We wouldn’t do this with other content”.* Finally,  
174 difficulty in convincing educators of clinical courses to include ethics content (such as ethical  
175 issues) in their course plans was reported as a barrier to an integrated approach to ethics  
176 teaching.

177

178 *2) Obstacles related to students*

179 Many participants reported that students lack interest and do not value ethics courses as much  
180 as skill-based courses (e.g., manual therapy courses). This lack of interest in or appreciation for  
181 the pertinence of ethics teaching was also attributed to students' limited clinical experience,  
182 especially early in their training. Also, while ethics itself is very complex, it is nonetheless  
183 perceived as a 'soft skill', so students (and at times other faculty members) do not place much  
184 value in ethics teaching as they think common sense is sufficient. Yet, participants noted that  
185 ethics cannot be reduced to good intentions, abiding by the law or following ethical codes of  
186 conduct. Others reported that while ethics requires in-depth analysis with reflective practice, it is  
187 easier for students to develop knowledge than reflective practices. Finally, one participant  
188 reported the 'hidden curriculum' as an obstacle where students sometimes learn ways of dealing  
189 with ethical issues and adopt approaches to decision-making based on the example set by their  
190 clinical tutors and supervisors, but which may be out of step with the ethical decision-making  
191 skills and knowledge learned in class.

192

193 *3) Obstacles related to the topic of ethics*

194 Participants reported that there is a lack of available specific teaching and evaluation tools,  
195 including a lack of stimulating educational resources for ethics teaching, that are relevant to the  
196 Canadian PT and OT context. They also face challenges integrating ethical theory that can  
197 address issues in rehabilitation ethics as ethical theory was traditionally applied to more medical  
198 situations. Participants also underlined the importance of addressing the ethics of teamwork in  
199 clinical practice, including divergent roles and values of interdisciplinary teams.

200

201 The responses of participants reflected the view that ethics for clinical practice is a very complex  
202 topic. This complexity is challenging for educators seeking to prepare students to be able to  
203 respond effectively to ethical issues that they will encounter in future practice. Teaching ethics

204 can also help raise students' awareness of the assumptions, values and beliefs that they carry  
205 into practice. To achieve these goals, students require opportunities and sufficient time to  
206 practice the in-depth ethical analysis of cases, as a high level of sophistication is needed to deal  
207 with complicated ethical issues.

208  
209 Participants noted that with the expanding scope of the core curriculum, often taught in a more  
210 compressed timeframe due to the shift to a Master's level of training, ethics teaching does not  
211 appear to be a priority in PT and OT training programs. A challenge is therefore to ensure that  
212 ethics content is presented and reinforced as students progress through the program by  
213 engaging all educators to include ethical issues in their clinical course scenarios.

214

## 215 **Discussion**

216 Our survey revealed broad variation between Canadian PT and OT programs in the number of  
217 hours dedicated to teaching ethics in their respective curricula, which ranged from 5 to 65 hours.  
218 This is in line with the findings of Barnitt [14] and Brockett [3] who found little consistency  
219 between ethics curricula in rehabilitation programs. However, there is a marked increase in  
220 ethics teaching in 2013 as compared as 1994 when Canadian OT programs were providing only  
221 2 to 15 hours of ethics teaching [3]. Some programs stand out with significantly more hours  
222 dedicated to ethics throughout a student's training. Most participants nonetheless expressed  
223 uncertainty related to the total number of hours dedicated to ethics (outside their own courses).  
224 These results reveal that ethics content is not often rigorously mapped across the curriculum  
225 and that a great deal of ethics teaching may be informal. Moreover, it can be difficult for  
226 participants to determine what should be included in the "ethics teaching" category of the  
227 curriculum. Some participants might include teaching on cultural issues, or conflict resolution as  
228 part as the ethics curricula, while others may not. Therefore, even though participants identified  
229 the number of hours dedicated to 'ethics', important differences may well exist regarding what

230 content (and thus time) was included as part of ethics training. Furthermore, there are structural  
231 differences in the Canadian PT/OT programs: some programs are a bachelor-master's  
232 continuum (4.5 year) (four PT programs and five OT programs, all in the province of Quebec)  
233 and others are a 2-year master's degree (17 programs). It is thus difficult to interpret the  
234 discrepancies in the number of hours of ethics teaching due to differences in the overall number  
235 of courses/credits.

236  
237 PT and OT ethics teaching has traditionally been done through large group lectures [26]. Even  
238 though other pedagogical methods are now widely used in Canadian programs (e.g., problem  
239 based-learning, case-study analysis), some educators have introduced innovative pedagogical  
240 methods (e.g., videos, conceptual maps or elective debriefing). Our survey showed that there is  
241 a wide range of approaches used to provide opportunities to develop ethical reasoning. We also  
242 observed that PT and OT programs have taken the digital technology turn [27], with many ethics  
243 educators enhancing their courses with web-based university management systems, video or  
244 online courses. Some studies demonstrate that a combination of pedagogical methods is more  
245 effective than a single approach [28,29]. A study conducted with masters-level healthcare  
246 students revealed that the combination of lectures and student-led presentations was more  
247 effective than either alone [28]. In a group of introductory psychology students, a lecture and  
248 case-study combination resulted in better performance in identifying and resolving ethical issues  
249 than lectures alone [29]. Thus, even if there may be no consensus on the *best methods* to be  
250 used in the ethics teaching in Canadian health professional programs, ethics educators are  
251 experimenting with a wide variety of teaching tools in order to identify those that are effective  
252 and adapted to their particular contexts. Research on the effectiveness of current methods of  
253 teaching and evaluation is needed to support ethics educators and programs to implement  
254 evidence-based ethics education training.

255

256 Our study highlights many obstacles to ethics teaching in Canadian PT and OT programs. The  
257 barriers to ethics teaching found in our survey resemble those identified in the literature in  
258 rehabilitation [24] and medicine [30-35]. One important finding is that many ethics educators  
259 have limited formal training in the subject matter. In our survey, 65% of ethics educators did not  
260 have any specialized training in ethics. This finding echoes Brockett's earlier study, where  
261 programs relied on their faculty members to teach ethical reasoning while recognizing that they  
262 did not hold formal qualifications in the subject [3]. In all content areas, educators must have the  
263 necessary theoretical and applied competencies and experience in order to provide students  
264 with relevant and up-to-date training [36]. The World Confederation of Physical Therapy  
265 encourages universities to deliver education by qualified faculty members who "have appropriate  
266 education and/or credentials to teach basic and foundational sciences (e.g., anatomy, histology,  
267 physiology, imaging, pharmacology), behavioural and social sciences (e.g., psychology, **ethics**,  
268 sociology), movement sciences (e.g., kinesiology, biomechanics, exercise science) and research  
269 methodology" (our emphasis) [37]. Across teaching domains, such expertise could, minimally, be  
270 developed by educators through the reading of academic papers, attending conferences and  
271 receiving mentoring/advice from more experienced and knowledgeable colleagues [36].

272  
273 However, as stated earlier, ethics education involves helping students to learn how to recognise  
274 ethical issues and to develop a sound analysis to guide their responses [15]. Therefore, an  
275 ethics educator would require the appropriate knowledge to guide the process of ethical issue  
276 identification, and the ethical reasoning analysis process. The lack of ethics training of PT and  
277 OT educators in our survey could also reflect the lack of development of ethical reasoning tools  
278 in the PT and OT professions. Some theoretical tools specific to rehabilitation are beginning to  
279 emerge, such as ethical frameworks to analyse ethical issues [38,39] or books [40-42] and these  
280 developments should contribute to a stronger knowledge of rehabilitation ethics.

281

282 Training future professionals should not be based solely on providing the tools to be efficient  
283 service providers; it is essential to also teach the ethical complexities affecting practice [12]. The  
284 expertise of future physiotherapists and occupational therapists is based on competencies that  
285 go beyond technical abilities since human relationships are at the heart of these professions [43-  
286 45]. Attributes of a 'good' professional include multidimensional competencies (such as having  
287 the role of communicator, collaborator, advocate, and professional) that have been identified in  
288 the Canadian Essential Competency Profile for physiotherapists [46], occupational therapists  
289 [47] and physicians [48]. Ethics teaching can contribute to developing professionalism and  
290 advocacy competencies. Thus, it is surprising that low priority is given by so many programs to  
291 ethics courses, as demonstrated by a lack of resources (human and space in the curricula) to  
292 allow for optimal pedagogical strategies. This situation could further reinforce the perception by  
293 many students and other faculty that ethics is a low priority topic. Also, a lack of resources may  
294 negatively affect students' development of complex skills associated with ethical decision-  
295 making, ultimately affecting the quality of the clinical services they provide.

296  
297 In order to precisely assess the place accorded to teaching ethics in PT and OT programs,  
298 further mapping of ethics content inside and across rehabilitation programs is needed. Such an  
299 initiative could also be conducted internationally thus helping to advance knowledge of ethics  
300 teaching in rehabilitation programs more globally.

301  
302 To support ethics educators, the creation of a national or an international community of PT and  
303 OT ethics educators could help address obstacles and promote improved rehabilitation ethics  
304 training. This community could share ethics training tools, resources and knowledge; and they  
305 could also be engaged in the provision of continuing education for faculty and other educators.  
306 For example, our group organized a workshop in May 2014 (the Canadian Rehabilitation Ethics  
307 Workshop: CREW day) as a knowledge exchange activity. This workshop allowed us to bring

308 together educators from all Canadian PT and OT programs to share their experiences,  
309 knowledge, reflections and concerns about the current state of Canadian rehabilitation ethics  
310 teaching (*what is currently taught*), and to then explore innovative models to improve  
311 rehabilitation ethics education (*what should be taught*) in their respective programs. This was  
312 also a first step to building a community of practice dedicated to ethics education that could help  
313 develop shared best practices. Future research will assess the success of this knowledge  
314 exchange initiative by using the Ottawa Model of Research Use (OMRU) [49], a model that  
315 promotes the development and use of new knowledge [50].

316

### 317 **Limitations**

318 This study aimed to examine ways and challenges of teaching ethics in entry-level Canadian PT  
319 and OT programs. Participants included at least one educator from each of the 28 Canadian  
320 university PT and OT departments, thus ensuring representation from all programs. However,  
321 our methodology prevented us from knowing whether respondents were the current “key ethics  
322 educator” in each program. Another limitation is that we did not define ‘ethics’ in the survey and  
323 there may have been some variability in answers based on participants’ own definitions; Aguilar  
324 described a similar issue with studying ‘professionalism’ [51]. Our survey thus presents  
325 participants’ views of what they defined as ethical content. As an example, none of the  
326 participants discussed clinical electives as part of the ethical curricula, probably as this informal  
327 approach to teaching ethics is neither extensive nor systematic [52]. However, two programs  
328 conduct clinical elective debriefing to discuss and analyse specific ethical issues that occurred  
329 during student electives. Also, participants might have been unaware of the ethics content of  
330 courses other than their own. This could lead to an underestimation of the hours or the topics  
331 covered. Finally, the survey contained many closed questions to facilitate inter-university  
332 comparison, along with open-ended questions to capture nuances between programs. The  
333 inclusion of closed questions, however, limited our ability to develop a complete or detailed



334 picture of ethics teaching within Canadian PT and OT programs. In order to develop a clearer  
335 portrait of approaches and challenges to teaching ethics, and potential solutions, it would be  
336 useful to further explore the experiences of ethics educators.

337

### 338 **Conclusion**

339 The survey findings provide an informative picture of the state of ethics teaching in Canadian PT  
340 and OT entry-level programs. There is a diversity of ways to integrate ethics in PT and OT  
341 curricula and a panoply of educational approaches used, suggesting that there is little  
342 consensus about best practices or the best approach to teaching ethics. Further research on  
343 teaching and evaluation tools and approaches, and assessment of the effectiveness of current  
344 ethics teaching in rehabilitation programs, would support the implementation of more evidence-  
345 based ethics education and training. Obstacles to ethics teaching identified in this study are  
346 shared across Canadian PT and OT programs. The creation of a community of PT and OT  
347 ethics educators – and the sharing of ethics training tools, resources and knowledge – would, we  
348 propose, help to address some of these obstacles and promote improved rehabilitation ethics  
349 training.

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466 **Implications for Rehabilitation “Box”**

467

468 **Title of manuscript:** An in-depth analysis of ethics teaching in Canadian Physiotherapy and  
469 Occupational Therapy programs

470

471 **Ethics Training in Rehabilitation Programs**

472 • Ethics educators in Canadian PT and OT programs are experimenting with diverse  
473 educational approaches to teach ethical reasoning and decision-making to students,  
474 including lectures, problem-based learning, directed readings, videos, conceptual maps  
475 and clinical elective debriefing, but no particular method has been shown to be more  
476 effective for developing ethical decision-making/reasoning. Thus, research on the  
477 effectiveness of current methods is needed to support ethics educators and programs to  
478 implement evidence-based ethics education training.

479 • In our survey, 65% of ethics educators did not have any specialized training in ethics.  
480 Ensuring that educators are well equipped to support the development of necessary  
481 theoretical and applied competencies can be promoted by initiatives including the  
482 creation of tailored ethics teaching and evaluation tools, and by establishing communities  
483 of practice among ethics educators.

484 • This survey identified heterogeneity in ethics teaching content, format and duration, and  
485 location within the curriculum. In order to be able to assess more precisely the place  
486 accorded to ethics teaching in PT and OT programs, careful mapping of ethics content  
487 inside and across rehabilitation programs is needed – both in Canada and internationally.  
488 These initiatives would help advance understanding of ethics teaching practices in  
489 rehabilitation.

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