Educator Preparedness to Teach Health Education in British Columbia

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ABSTRACT

Background: To date, few studies have been conducted to investigate the preparedness of health educators in Canadian school systems. Purpose: This study assessed practicing and preservice teachers' self-perceptions of preparedness to teach health education in British Columbia K–12 classrooms. It also investigated factors related to their preparedness. Methods: In 2006, 166 practicing teachers and 78 preservice teachers participated in a self-designed questionnaire. Results: Significant positive relationships were found between preservice teachers' knowledge, skill, preparedness, beliefs toward health education, and satisfaction with the provincial health curricula in assisting them to teach health education. Practicing teachers with more experiences in health education reported higher levels of knowledge, skill, and preparedness, as well as more positive beliefs toward health education, but their satisfaction with the curriculum was negatively associated with those variables. They also reported higher levels of skill and satisfaction and more positive beliefs than the preservice group. Discussion: In light of these results, further explorations are needed to understand current contexts within Canadian school health education. Translation to Health Education Practice: Findings support the need for training and implementation of health-related programs into the education system, particularly the deliberation on how to transform curricula into a more supportive vehicle for health education programming.

BACKGROUND

Research indicates that effective, standards-based health education teachers are necessary in order to influence students' health knowledge, skills, and behaviors.[1,2] University programs must prepare health-literate teachers who have the capacity to access, understand, and analyze functional health information and services, as well as the competence to apply such information and services in ways that enable K–12 students to learn health concepts and skills.[3] Currently, no standardized guidelines exist across Canada, or within British Columbia (B.C.), that require practicing teachers to receive mandatory training in health education. Consequently, teachers have received limited coursework and training in this subject area. According to the B.C. Ministry of Education,[4] by adopting a health-promoting schools approach, and by striving to provide effective teaching and learning to achieve the knowledge, skills, and community partnerships that contribute to wellness, the B.C. school system has the opportunity to enhance the health and learning of all British Columbians. The purpose of this study was to examine the self-perceptions of how well prepared practicing and preservice teachers feel they are to teach health education within B.C.'s current K–12 school system. The study also aimed to identify factors associated with the self-reported levels of preparedness.

National Recognition of School Health Education in Canada and British Columbia

It has long been recognized that there is a link between health and learning.[5-7] Concern about the current relationship between health and educational achievement of our youths has produced a considerable interest in comprehensive and coordinated school health education initiatives relative to the needs of Canada's multicultural youths. More than 30 Canadian organizations have endorsed a consensus statement on Comprehensive School Health (CSH) and the need for an integrated school-based approach, which incorporates instruction,

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services, social support, and environment as health-promoting strategies.[8] As a federal commitment to Canadians, the government has affirmed that improving the health of our nation necessitates the identification of health priority areas,[9] and the B.C. government is committed to enhancing the health and education outcomes of all B.C. children and youths, all toward the goal of significantly improving the health of its citizens by 2010.[4] Consequently, the need for health education instruction within schools is becoming more recognized across the nation.

Around the globe, health professionals have agreed that "health is created and lived by people within the settings of their everyday life: where they learn, work, play, and love. Health is creating by caring for oneself and others, by being able to take decisions and have control over one's life circumstances, and by ensuring that the society one lives in creates conditions that allow the attainment of health by all its members."[10] The reality of today's successful school health programs is echoed in the five broad principles outlined by the Ottawa Charter for Health Promotion (Table 1).[10] Although all of these strategies can be undertaken in the school setting with coordinated efforts by teachers to address health-related issues, the fifth strategy highlights the requirement for professional training and education to meet the changing health needs of individuals in our society.

In March 2005, the Joint Consortium for School Health was established by provincial, territorial, and federal governments to form an intergovernmental agency to facilitate and initiate cooperation across the health and education sectors. The consortium's focus is to strengthen the collaborative capacities, activities, and actions of health and education through school-based and school-linked programs throughout the nation. In order to support these newly advocated health-promoting school communities across Canada in a sustained manner, the organizational capacities of education and health systems can be strengthened in various areas, including professional preparation and staff development.[11]

Table 1. Five Strategies of Action in Strengthening School Health Using the Ottawa Charter for Health Promotion Strategy

Build healthy public policy for school health education, which promotes both health and education.
Create supportive environments by fostering positive psychosocial and physical environments in the school for both living and working.
Strengthen community actions and linkages between the school and other relevant institutions that support the process of health promotion and empowering individuals and communities.
Develop necessary personal skills and social skill development (through teaching, curricula, and school initiatives) that enable individuals to make choices conducive to health.
Reorient health services in the school and community to ensure that individuals are provided access to services within the school as well as referral to external health services. Strategies also include a greater attention to professional training and education in the field, as well as health research.

Sources: WHO Health Organization Regional Office for Europe. *Ottawa Charter for Health Promotion, 1986.* Available at: http://www.euro.who.int/AboutWHO/Policy/20010827_2. Accessed November 19, 2006. WHO Expert Committee on Comprehensive School Health and Promotion. *Promoting Health through Schools.* (WHO Technical Report 870). Geneva; 1995.

Provincial Curricular Reform

The B.C. Ministry of Education's provincially prescribed Health and Career Education (HCE) curriculum is offered to students K–9, while 10th-grade students receive the mandated Planning 10 curriculum—which, although a prerequisite to graduation, affords minimal attention to health.[12] Each curriculum has a set of prescribed learning outcomes (PLOs) of what students are expected to know and do at the end of the course, and evaluation and reporting of students with respect to these outcomes are dependent on the professional judgment and experience of teachers. Along with many other government initiatives related to healthy schools, the newly revised HCE and Planning 10 were designed with the aim of helping students developing the knowledge, skills, and attitudes for attaining and maintaining healthier lifestyles and managing their lives more purposefully and effectively. Lack of teacher preparation has been called a major obstacle to implementing such quality school health instruction.[3] Teacher training can influence teachers' knowledge and perceptions about the importance of health education, their level of comfort teaching health, as well as their intentions to teach health.[13] Consequently, a lack of training in health education can make teachers feel unable to teach health, uncomfortable with aspects of the health curriculum, and ill-prepared to respond to students with personal health concerns.[13]

Role of Health Education Teacher Training

Many studies report the importance of school health education programs in promoting health for students and preventing the adoption of many high-risk behaviors.[14-16] However, effectiveness depends on factors such as health training for preservice teachers.[13,17] St. Leger[18] noted that the concept of health literacy is very compatible with the health promoting school concept and could form an acceptable outcome by which the success of a health promoting school could be achieved and assessed. St. Leger further identified three factors[19] that must be addressed to enable schools to achieve this outcome: first, the traditional structure and function of schools; second, teachers'

practices and skills; and third, time and resources.[18] The preparation of prospective health teachers by colleges and universities plays a critical role in the success of health programs, which must incorporate key concepts into their professional preparation curriculum to assist with the challenging task of health and education reform within our school systems.

PURPOSE

Recent studies from around the globe have revealed the importance of skills-based health education approaches in health-promoting schools to enhance healthy development among youths.[20-23] However, encouraging teachers to participate in and deliver comprehensive health programs is often difficult due to crowded curricula and increasing number of curriculum areas in the school agendas.[24] With teachers being a keystone of the efforts to strengthen school health programs, it has been suggested that policy development for in-service training involvement for nonteaching staff, parents, and other adults be implemented as a support mechanism.[25] A lack of current Canadian studies in health educator preparedness, coupled with a progressive national recognition of school health and B.C. curricular reform, reflects a need for further exploration in the field. Hence, this study aims to assess health teachers' preparedness level, as well as relationships between their overall preparation, personal beliefs, and satisfaction with current curricula. It was hoped that the findings would be very informative with respect to the following questions: do we need to improve the current situation, and, if so, why and how?

METHODS

Participants and Procedure

The survey respondents were practicing K–12 teachers from the participating school district and preservice teachers from the participating university. In spring 2006, a total of 520 surveys were distributed by mail to practicing teachers in five elementary schools, all 18 high schools, and six learning centers from each of the five regions of the large school district (north, south, east, west, and central) in western Canada. Each elementary school was sent 10 surveys, while each high school and learning center was sent 15 surveys. Each school package included a cover letter addressed to the principal explaining the study as well as preaddressed envelopes for each completed survey and a preaddressed large envelope for completed lottery forms from the voluntary, anonymous participants as incentives to enter a draw and win a gift certificate.

Surveys were also distributed to all enrolled preservice teachers in a western Canadian university by email listserv and self-administered to on-campus classes. Preservice teacher participants were also eligible and were invited to submit a lottery form to win a draw as an incentive to complete the survey.

In total, 166 practicing teachers and 78 preservice teachers in health education voluntarily participated in the study. Thirty-one participants were excluded due to missing data. This resulted in a final sample size of 213.

Instrument

Survey content was informed by a literature review, a previous focus group study with practicing and preservice teachers, and an analysis of the revised B.C. Ministry of Education health education curricula. The survey was divided into several parts. Part A inquired about participants' demographic and professional information, including age, gender, degree, employment, health training received, and health-related teaching experiences. Practicing teachers were also asked to respond to four more items regarding health education in their schools: the time allocation for health education during school, health-promoting activities organized at school, the integration of health into other subject areas, and their comfort for such integration. The first three items required a yes-no answer, and the last item was rated on a 4-point scale, ranging from "not at all comfortable" (1) to "very comfortable" (4).

In Part B of the survey, participants were instructed to indicate their current level of knowledge and skill to teach 17 health-relevant topics (e.g., nutrition, mental well-being, long/short-term implications of substance misuse) on a 5-point Likert scale ranging from 1 ("comprehensive") to 5 ("not at all"). Participants also rated their level of preparedness to accomplish seven different tasks (e.g., "develop, conduct, and interpret results of an evaluation of a school health program") with the same Likert scale.

In Part C, practicing teachers ranked their top three sources for seeking health information and preparing lesson plan material, as well as the most useful items and the greatest challenges to teaching health education. This part was not applicable for preservice teachers. In addition, we constructed one item to investigate all participants' satisfaction level with the HCE/Planning 10 curriculum in helping them teach health education, using a 4-point scale ranging from "not satisfied" (1) to "very satisfied" (4).

Part D elicited teachers' opinions about general aspects of health education in schools, including whether preservice education should include a mandatory course on health education instruction, how important they felt teacher attitude toward health education was in influencing healthy student behavior, whether teachers have a responsibility to teach their students about health, and nine other items. Participants rated their current attitudes and beliefs about health education by selecting answers from a range ("strongly agree" to "strongly disagree," or "very important" to "not at all important"). All 12 items were summed up as the "beliefs" variable. The reliability coefficient was .70 for preservice teachers (n=69) and .68 for practicing teachers (n=144).

RESULTS

Demographic data are displayed in Table 2 for age, gender, ethnicity, academic degree, certification area, employment status, health-related training, and health-related teaching experiences. The outcome variables examined in this study were current skill levels in a variety of health-related elements, current knowledge levels in those elements, level of preparedness to accomplish different health-related tasks, satisfaction level

Table 2. Demographic Information of Survey Respondents

	% of Preservice Teachers (N=69)	% of Practicing Teachers (N=144)
Age	Mean= 29.9 (SD=6.96)	Mean=41.5 (SD=10.44)
Gender		
Female	85.5	69.4
Male	14.5	30.6
Ethnicity		
White	79.7	86.8
Asian	13.0	10.4
Other	7.3	2.8
Highest degree		
Bachelor	91.3	72.9
Master	.01	25.7
Certification area		
Science	5.8	14.6
Arts	21.7	43.8
Health education	0	4.2
Employment status		
Part-time	-	11.8
Full-time	-	86.8
Health-related training	75.4	55.6
Health-related teaching	17.6	62.5

Table 3. Inter-Correlations between Outcome Variables in Preservice Teachers (N=69)

	1	2	3	4	5	6	7
1 Health Training	-						
2 Health Course Teaching	.40*	-					
3 Satisfaction	.22	.37*	-				
4 Knowledge	-.05	.06	.39*	-			
5 Skill	-.04	.04	.39*	.77*	-		
6 Preparedness	.14	.16	.39*	.39*	.46*	-	
7 Beliefs	-.05	.05	.11	.14	.07	.30†	-

*Significant at the .01 level
†Significant at the .05 level

with the HCE/Planning 10 curriculum in teaching health education, and overall beliefs toward health education. Analyses of bivariate relationships were conducted for each sample among key demographic variables and dependent variables. One-way ANOVAs with Scheffe post-hoc comparisons were also used to determine mean differences in the above five dependent variables between preservice and practicing teachers.

Bivariate Correlations

Preservice teachers. As shown in Table 3, preservice teachers' satisfaction with the health curricula's efficacy in helping them teach health education was found to be significantly correlated with their health-course teaching experiences (r=.37, p<.01). However, neither health training nor teaching experience was significantly associated with knowledge, skill, preparedness levels, or attitudes toward health education, even though significant correlations were observed between knowledge, skill, and preparedness levels (p<.01). Beliefs and attitudes toward health education were only observed to be moderately positively associated with preparedness level (r=.30, p<.05).

Practicing teachers. The experiences of receiving health education training and teaching health education were positively correlated with their knowledge and skill levels, preparedness, and beliefs about health education, but negatively related to satisfaction with curriculum (Table 4). There were also significant positive relationships between knowledge, skill, preparedness levels, and attitudes toward health education (p<.01). In contrast, teachers' satisfaction was slightly negatively associated with the rest of the dependent variables except for knowledge level. The practicing teachers were also asked to rate the quality and extent of health education in their schools. In response, 94.4% of teachers acknowledged that their schools organize health-promoting activities (e.g., Terry Fox Run, Jump Rope for Heart), and more than half reported that their schools allocate a designated time period for health education (Figure 1). Furthermore, 68.1% of the teachers reported that they integrated health into other subject areas, with three-fifths of these respondents stating that they felt very comfortable with the integration, and only 5.8% expressing discomfort with it. This comfort level was found to be significantly positively correlated with their levels of knowledge, skill, and preparedness, as well as their attitudes toward health education.

Differences between Preservice and Practicing Teachers

The results of ANOVAs with the five dependent variables specified previously (see Table 5) revealed that practicing teachers exhibited higher levels of skills than preservice teachers ($F(1,188)=4.87$, p<.05); more positive attitudes and beliefs

Table 4. Inter-Correlations between Outcome Variables in Practicing Teachers (N=144)

	1	2	3	4	5	6	7	8	9	10	11
1 Health Training	-										
2 Health Teaching	.31*	-									
3 Integration	.24†	.16	-								
4 Comfortable	.16	.14	.16	-							
5 Allocation	.01	-.02	-.07	.13	-						
6 Activity	.27†	.14	.07	.25†	.15	-					
7 Satisfaction	-.27†	-.43*	-.18	.11	.18†	-.09	-				
8 Knowledge	.39*	.23*	.07	.49*	.04	.22*	-.16	-			
9 Skill	.35*	.25*	.14	.46*	.03	.19†	-.20†	.91*	-		
10Preparedness	.41*	.23*	.21†	.42*	.17†	.15	-.24*	.61*	.61*	-	
11 Beliefs	.25†	.20†	.13	.30*	-.09	.10	-.22†	.33*	.30*	.45*	-

*Significant at the .01 level
†Significant at the .05 level

regarding the importance of health education ($F(1,211)=59.33$, $p<.001$); and higher levels of satisfaction with the curricula ($F(1,191)=195.77$, $p<.001$). No other significant group difference was detected.

DISCUSSION

The purpose of this study was to assess the knowledge, skill, and preparedness levels of both preservice and practicing teachers, as well as their satisfaction with the curricula and beliefs related to health education in Canada. Previous literature in this area mainly employed American samples reflecting the current situation of health education in the United States. This study, to our knowledge, was the first attempt to examine similar issues in a Canadian context.

Knowledge, Skill, and Preparedness Levels

The data from our study suggests that in both preservice and practicing teachers, the higher level of knowledge and skill the teachers possessed, the more prepared and competent they felt to teach health education. Previous studies[26] showed that after implementing curriculum training for school staff, statistically significant, positive changes had occurred in preparedness levels. In contrast, school staff that did not receive training in health education showed no improvement in preparedness for any of the study content areas. In addition, prior studies[27,28] showed that health educators with more training and experiences in health education were more competent and confident in fulfilling their responsibilities.

There is benefit to health education training for teachers' level of preparedness, and teachers should be provided with opportunities for such continuing education initiatives. However, this only applied to our practicing teacher sample. No significant correlations were found between health training and preparedness, skill, or knowledge levels among preservice teachers. We speculate that preservice teachers' lecture hall training does not automatically translate into real-life classrooms, and practicing teachers may have the advantage of creating their own understanding by reflecting on past experiences and using training opportunities in new constructivist settings.

As one past study concluded, "The role of teacher as health educator depends on their knowledge, their views on the individual's health responsibility and on their perceptions of their own influence."[29] Detected significant differences in skill level between preservice and practicing teachers may be attributed to more years of practical experiences among practicing teachers, who use skills in the classroom and believe that any such skills would be transferable in the health classroom regardless of their discipline. Surprisingly, no difference was observed regarding knowledge and preparedness levels between preservice and practicing teachers. This is inconsistent with prior research using U.S. samples. Teachers with more experience might be expected to have higher levels of both knowledge and skills.[13] However, with no health education certification offered in B.C., along with a dearth of professional teacher preparation programs or professional development workshops related to health education, individuals tend to have limited exposure to both preservice and in-service training opportunities. This leaves us to speculate that nonsignificant group differences in knowledge and preparedness stem from insufficient opportunities for absorbing knowledge and lack of the pressures typically associated with certificate acquisition.

Satisfaction with Current Curricula

Preservice teachers with higher levels of health knowledge and skills felt more satisfied with the health curricula's ability to help them teach health education. They also considered health education as more important and imperative in the schools. These attitudes were not replicated among practicing teachers, however. The negative correlations between satisfaction with the curricula, on the one hand, and knowledge, skill levels, overall preparedness, and beliefs, on the other, led us to search for sensible explanations.

Prior background in this field by practic-

Figure 1. Practicing Teachers' Ratings of Health Education in Their School

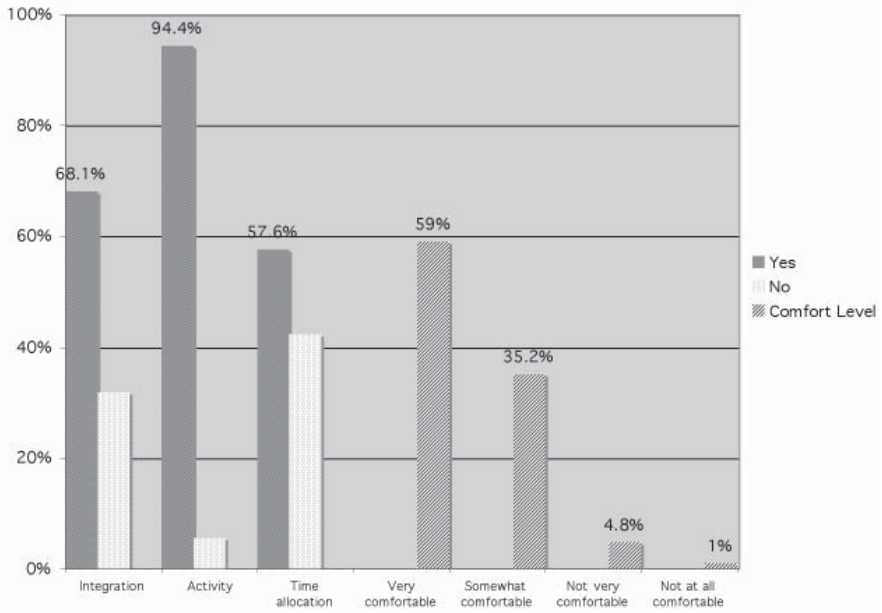

Table 5. Means and Standard Deviations of Health Training, Knowledge, Skill, Preparedness, and Beliefs toward Health Education

Measures	Practicing Teachers	Preservice Teachers	F
Knowledge	56.83 (13.96)	56.76 (11.23)	.00
Skill	56.54 (14.58)	51.58 (14.39)	4.87*
Preparedness	20.96 (7.23)	22.62 (6.89)	2.42
Satisfaction	3.8 (1.60)	0.65 (1.13)	195.77†
Beliefs	43.36 (4.91)	38.13 (4.01)	59.33†

Note: The numbers in the parentheses are standard deviations.
*Significant at the .05 level
†Significant at the .01 level

ing teachers may have been an influential predictor, prompting teachers to informally critique the provincial curricula and, in turn, producing more negative self-satisfaction regarding the newly revised innovation. The teachers' decrease in curricular satisfaction could also be attributed to the fact that their health education background (25.7% of the practicing teachers already held a master's degree when they responded to the inventory, as opposed to .01% of preservice teachers) allowed for a greater awareness that schools cannot affect health through curriculum alone, and that a whole-school approach is needed that combines curriculum, environment, and services.[30] More specifically, they may have been more likely to realize that today's health education should consist of sequential, skills-based K–12 courses accompanied by interdisciplinary efforts throughout a whole-school process, all complemented with coordinated school health practices.[31]

In addition, according to the survey on the sources practicing teachers use to seek health information and health lesson plan material, the three most frequent sources were the internet, in-service workshops, and fellow teachers. Health education training, guest speakers, and health resource manuals for teachers were ranked the most helpful to teach health education. However, only 41% reported that they had adequate materials and resources to teach health education. Meanwhile, the three greatest challenges practicing teachers face are lack of time, lack of resources, and too much teaching. Although most of the teachers reported participation in school-based health activities (88%), they did not view these activities as collaborative efforts to teach health education or enhance their work, but rather as isolated and intermittent efforts. With implementation being a considerable challenge in of itself, the educational literature indicates that an innovation is often modified to fit the program with the school's goals, values, and level of training.[32] To meet the prescribed learning outcomes (PLOs) of the B.C. provincial curricula, teachers reported individually seeking teaching assistance from staff in other disciplines to assist in the fulfillment of requirements. It could be that greater participation in fragmented health teaching and school-based health activities reinforced a sense of isolation when confronting perceived curricular barriers. All of these results assist in identifying perceived challenges related to the health curriculum, which influences teacher satisfaction.

Beliefs about Health Education

Our results clearly showed that the higher a practicing teacher's levels of knowledge, skill, and preparedness, the more positively he/she regarded health education. But this pattern was not replicated for preservice teachers, among whom only preparedness was associated with beliefs. With respect to the differences between preservice and practicing teachers, the stronger beliefs about the importance of health education in general reported by practicing teachers, coupled with higher skill levels, indicate that perhaps these teachers had a greater opportunity to practice their health-related skills in the classroom, guided by their individual health-related beliefs. Alternatively, it is also possible that practicing teachers' beliefs may be strengthened by their health-teaching

experiences. It may be that prior practical teaching experiences in health education by practicing teachers contribute to greater health literacy levels, thereby influencing health-related beliefs.

Study Limitations

Limitations to this study should be considered when examining the results. The teachers who volunteered to complete the surveys from the participating schools may have a greater interest in and/or played a more active role in health education. It is not known whether the preservice and practicing teachers answered the survey questions in a socially desirable manner, which would represent a threat to internal validity. All of the teacher surveys and online preservice surveys (in-class preservice surveys) administered by the investigators were completed in the absence of the investigators, creating room for possible misinterpretations of questions as well as influential dialogue among colleagues and/or students. In addition, the relatively smaller sample size of preservice teachers (n=69) and the modest level of reliability of the "attitudes and beliefs of health education" scale present a caution to generalize the findings.

TRANSLATION TO HEALTH EDUCATION PRACTICE

While the purpose of this study was not to generalize the preparedness of all practicing and preservice teachers throughout the country, the findings still offer important input for educators and researchers in health education, both nationally and internationally.

Professional Teacher Programs

One implication arising from the findings pertains to the nature and type of coursework that a teacher in training should experience. Exposure to comprehensive and coordinated school health program approaches for *all* preservice teachers is an option that should be considered during curriculum design. The link between health and learning has long been recognized, and increasing teachers' self-perceptions of preparedness has important implications for creating healthy school communities. In addition, offering teacher practica that involve opportunities for preservice teachers to deliver health content in their respective disciplines as well as pedagogy-based concepts to develop teacher health literacy is important to help create health-promoting schools. Furthermore, this study raises the question of the need and practicality of integrating mandatory health education training in all professional teacher preparation programs. Prospective teachers would greatly benefit from one or more required courses in health education. Professional accreditation bodies in Canada should establish such courses as a requirement in order to ensure standardized content, skills, and objectives, similar to what governing bodies in the United States have already instituted (e.g., NCHEC, SOPHE, AAHE, NCATE). These study findings reinforce the need for the initial development and implementation of national health educator roles and competencies guidelines as a basis for use within undergraduate, professional preparation, and graduate programs to guide and promote promising practices. This also reminds the boards of NCHEC, SOPHE, and AAHE of their recent significant milestones regarding the verification of entry- and master-level health education responsibilities, competencies, and subcompetencies as a result of the National Health Educator Competencies Update Project[36]—a reflection of their ongoing dedication to quality assurance in professional preparation and practice of health educators.

Health Curricula Reform

If health education is to continue its increase in acceptance and importance in B.C. and the rest of the nation, there is a need to evaluate recent curricula as part of the comprehensive and coordinated school health program reform and school improvement efforts. An ongoing evaluation of the newly revised B.C. Ministry of Education curricula and teachers' use of the curricula is an important component of this relationship. Process evaluation can be useful to document, monitor, and assess progress toward the new curricula in conjunction with a health-promoting school program, and to identify supports and barriers to completion of the program among all of its participants.[34] Few Canadian studies have explored the health curricula in context and in relation to teachers, students, and school communities. Similar to studies conducted in the United States using the School Health Education Profile (SHEP)[35]—wherein principal and health teacher questionnaires were developed by the Division of Adolescent and School Health, the National Center for Chronic Disease Prevention and Health Promotion, and the Centers for Disease Control and Prevention in collaboration with representatives of state, local, regional, and national departments of health and education—provinces and territories throughout Canada could benefit from a pan-Canadian mechanism. Conducting a thorough data analysis that includes teachers' views could help determine the extent to which gaps exist in school health education and how local, regional, or national collaborations and policies could address such gaps through curricula, preservice and professional development, and community engagement. This is important because formal evaluation studies of health education programs conclude that effective curricula implemented by well-prepared teachers can reduce risky behaviors among youths.[36] Furthermore, process evaluation can be employed within a school to document the level or extent of dissemination of a new health education curriculum or the quality of a school-wide interdisciplinary effort to identify barriers that teachers have encountered while implementing a given curriculum.[37] Future directions regarding the design, implementation, and evaluation of health curricula in provinces, territories, and states merit attention for ongoing research as an important component in the larger notion of health-promoting schools.

In-Service Programs

This study shows a disconnect between teachers' satisfaction with the role of the current health curriculum in relation to higher levels of self-reported knowledge, skills, preparedness, and beliefs regarding the importance of health education. These

findings suggest that the B.C. Ministry of Education may want to revisit its curricular design and offer in-service programs to teachers to disseminate resources and assist with the implementation and evaluation processes of their mandated curriculum packages. Although practicing teachers reported higher skill levels and exhibited stronger beliefs about health education than preservice teachers, results indicated that no significant group differences were found in knowledge or preparedness levels. Ongoing school-wide professional development opportunities could be offered for teachers in recognized areas that tend to be problematic and marked for improvement, toward the goal of increasing levels for preparedness to specific school contexts.

Health-Promoting Schools

Teacher preparation programs should provide opportunities for preservice teachers to become health-literate practicing teachers who feel qualified and competent to participate in a comprehensive and coordinated school health program. In-service workshops should continue to advocate the importance of a school-wide interdisciplinary approach that fosters cooperation between individuals, families, and community members. As each provincial/territorial health and education ministry has jointly named a school health coordinator and agreed on a mutual approach to school health, it is imperative that introductions are made and relationships are formed with universities, research networks, school districts, local health authorities, and appropriate organizations in the field to synchronize and coordinate efforts. Due to the increase in recognition of school/community-wide and culturally relevant population health approaches in B.C. and beyond, systemic capacity-building is gradually strengthening between provincial/territorial jurisdictions in both education and health ministries (and their local agencies) and the developing university teacher training programs that integrate health-promoting schools. This may underscore to other nations the importance of participation as *communities of practice* in the delivery of programs, activities, and services that serve our ethnocultural society in local contexts.

CONCLUSION

This study investigated practicing and preservice teachers' self-perceptions and preparedness to teach health education in British Columbia K–12 classrooms and the factors related to individual perceptions of preparedness. The findings reinforce the notion that teacher training in health education is an important component in enhancing the knowledge, skills, preparedness, and beliefs that support health-related curricula and the competence to teach school health education. Further provincial/territorial and national studies could provide additional data to local Canadian studies such as this one.

Canada is rethinking health education. Today, the changing face of health education reflects a renewed attention to student and teacher health literacy and broadening school and community partnerships to meet the needs of diverse ethno-cultural societies. Standards-based health education in the United States is a mechanism that uses the alignment of instruction, curriculum, and assessment to promote both student and teacher health literacy. Given the lack of similar national standards in Canada, university professional preparation programs could develop and implement a framework that is appropriate for their context and useful for both standards-based learning and teaching.

With a growing interest in the link between health and learning and producing qualified health educators, a national Canadian study could provide further insight into the need for professional organizations to partner with the health education discipline. This in turn could create and promote health-related standards and verify roles for health educators similar to NCHEC, SOPHE, AAHE, and NCATE in the United States. Hopefully, this study will contribute to research dialogue and advocacy regarding effective teaching and changing the nature of preservice and in-service training to reflect the broader notion of creating healthy school communities. A further examination of teacher preparedness, professional teacher preparation, effective school health education programs, and health-promoting schools is needed to increase accountability, enhance the nation's commitment to well-being, and support our ambition to collaboratively improve the health status of all individuals.

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