Document généré le 12 oct. 2024 04:32

Canadian Journal of Education
Revue canadienne de l'éducation

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Volume 45, numéro 1, printemps 2022

URI : https://id.erudit.org/iderudit/1088511ar
DOI : https://doi.org/10.53967/cje-rce.v45i1.5033

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Éditeur(s)

Canadian Society for the Study of Education

ISSN

0380-2361 (imprimé)
1918-5979 (numérique)

Découvrir la revue

Citer cet article

Nutter, S., Saunders, J., Brun, I., Exner-Cortens, D. & Russell-Mayhew, S. (2022). Changes in Pre-Service Teacher Personal and Professional Attitudes Following a Comprehensive School Health Course. *Canadian Journal of Education / Revue canadienne de l'éducation*, *45*(1), 227–245. https://doi.org/10.53967/cje-rce.v45i1.5033

Résumé de l'article

L'approche globale de la santé en milieu scolaire (AGSS) est un système développé pour aider les enseignants à fournir des contenus liés à la santé et à soutenir la promotion de la santé au sein de la communauté scolaire. Dans cette étude, 222 étudiants du baccalauréat en Éducation ont répondu à des sondages au début et à la fin d'un cours obligatoire de 6 semaines sur l'AGSS. À la suite du cours, les résultats des participants s'étaient considérablement améliorés dans les catégories suivantes : leurs attitudes envers l'AGSS, l'autoefficacité d'enseigner en utilisant l'AGSS, et leurs attitudes liées au poids. Ces résultats appuient l'AGSS en tant que système utile pour les enseignants dans leur pratique future afin d'améliorer le bien-être des élèves, des enseignants et de la communauté scolaire en général.

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Changes in Pre-Service Teacher Personal and Professional Attitudes Following a Comprehensive School Health Course

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Canadian Journal of Education / Revue canadienne de l'éducation 45:1 (2022)
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Société canadienne pour l'étude de l'éducation
www.cje-rce.ca

Abstract

Comprehensive school health (CSH) is a framework that can support teachers in the delivery of health-related content as well as supporting health promotion within the school community. In this study, 222 Bachelor of Education students completed surveys at the beginning and end of a mandatory six-week course on CSH with a body weight-neutral focus. Following the course, participants had significantly positively increased attitudes toward CSH, self-efficacy to teach using CSH, and weight-related attitudes. These results support CSH as a useful framework for teachers in their future practice to improve the wellness of students, teachers, and the broader school community.

Keywords: Comprehensive School Health, pre-service teachers, self-efficacy, body image, weight bias

Résumé

L'approche globale de la santé en milieu scolaire (AGSS) est un système développé pour aider les enseignants à fournir des contenus liés à la santé et à soutenir la promotion de la santé au sein de la communauté scolaire. Dans cette étude, 222 étudiants du baccalauréat en Éducation ont répondu à des sondages au début et à la fin d'un cours obligatoire de 6 semaines sur l'AGSS. À la suite du cours, les résultats des participants s'étaient considérablement améliorés dans les catégories suivantes : leurs attitudes envers l'AGSS, l'autoefficacité d'enseigner en utilisant l'AGSS, et leurs attitudes liées au poids. Ces résultats appuient l'AGSS en tant que système utile pour les enseignants dans leur pratique future afin d'améliorer le bien-être des élèves, des enseignants et de la communauté scolaire en général.

Mots-clés : santé scolaire globale, enseignants en formation initiale, autoefficacité, image corporelle, préjugés à l'égard du poids

Introduction

Schools are being increasingly recognized by governments as ideal locations for health promotion (Centers for Disease Control and Prevention, 2019; Government of Canada, 2013; UK Department for Education, 2010). Engaging students of all ages in physical activity and healthy lifestyles is an important public health goal, with both significant benefits for the physical and mental health outcomes of students as well as improved academic performance (Bassett-Gunter et al., 2016; Watson et al., 2017). Despite evidence that healthy children are better able to learn and succeed in school, teachers have reported ongoing pressure to focus on academic subjects to the neglect of health-related curriculum (Bonell et al., 2014; Thackeray et al., 2013). Bonell and colleagues (2014) noted that a general rationale for emphasizing academic subjects over health-related content is the belief that decreased academic learning time will correspond with decreased academic attainment. However, in nations with strong academic achievement records, the overall well-being and healthy development of students actually receives *increased* attention (Bonell et al., 2014), suggesting that an increased focus on health and well-being is connected to improvements in academics as well (Michael et al., 2015).

In addition to an emphasis on academic instruction, teachers may also feel unprepared to teach a health-related curriculum and/or engage in health-promoting school initiatives. Researchers have found that teachers experience multiple barriers to teaching health, including discomfort with health curricula, difficulty identifying the best information among mixed health-related messaging, and feeling ill-prepared to teach health (Russell-Mayhew et al., 2007; Vamos & Zhou, 2009). Thus, increased efforts to better understand how to teach health-related content and to engage in school health promotion, as well as efforts to better prepare teachers to do so, are both of critical importance. The current study sought to respond to these needs by evaluating the association between participation in a mandatory comprehensive school health (CSH) course in a Bachelor of Education program and pre-service teacher knowledge and attitudes related to health and well-being, as well as self-efficacy in teaching health-related content.

Comprehensive School Health

Comprehensive school health (CSH) is an internationally recognized framework, similar to health-promoting schools, that places students as primary beneficiaries of improved health and learning outcomes through coordinated action with all members of the school community (Joint Consortium for School Health [JCSH], 2019). This framework is based on research evidence that healthy children have greater capacity for learning and that good health has a positive effect on academic achievement throughout the lifespan (Bassett-Gunter et al., 2016), including in post-secondary contexts (Russell-Mayhew et al., 2017). Comprehensive School Health moves curriculum and learning beyond traditional conceptualizations of health education toward an integrated approach of health promotion at the level of the whole school community. Comprehensive School Health is built upon four pillars that, when working together in harmony, support students in achieving their full potential and contribute to the wellness of the entire school community (i.e., students, teachers, administration, support staff; JCSH, 2019). The four pillars are: (1) teaching and learning, which includes curricular and non-curricular learning about health and wellness; (2) social and physical environment, which includes the social, emotional, and physical well-being of the school community; (3) healthy school policy, which includes administrative practices and policies that promote wellness; and (4) partnerships and services, which includes the working relationships between schools and community organizations that support school wellness (Bassett-Gunter et al., 2016; JCSH, 2019).

Recent research investigating the effectiveness of CSH initiatives related to both mental and physical health has demonstrated that such initiatives have a positive effect on rates of student physical activity (Centeio et al., 2018; McKay et al., 2015) and levels of anxiety and depression (Dassanayake et al., 2017). Comprehensive School Health projects have been found to enhance the physical well-being of students (McKay et al., 2015) and may also contribute to a closing of the achievement gap between students in disadvantaged areas compared to students from more privileged schools (Centeio et al., 2021). Despite having received empirical support (Centeio et al., 2018; Dassanayake et al., 2017; McKay et al., 2015; Ohinmaa et al., 2011), researchers have called for increased quantitative research in order to support broader implementation and to evaluate CSH aims robustly. Given this, the current research utilized a quantitative approach to examine if a CSH course in a Bachelor of Education program could support the broader implementation of

this framework within pre-service teacher training. Specifically, we examined changes in students' attitudes toward CSH as well as changes in their perceived self-efficacy to teach from a CSH perspective from the beginning to the end of the six-week course.

Weight-Related Attitudes and Behaviours

In addition to a focus on CSH broadly, CSH initiatives also often focus on advancing understanding of specific topics. As health is often conflated with body weight by individuals in Western culture, including teachers (Garrett & Wrench, 2012), weight bias and body dissatisfaction are important to discuss directly when teaching about CSH approaches. Body dissatisfaction encompasses an individual's negative thoughts and emotions related to their body (Grogan, 2016) and is the strongest risk factor for the development of eating disorders (Forney & Ward, 2013; Stice et al., 2004; Striegel-Moore & Bulik, 2007). Additionally, body dissatisfaction is associated with other negative health outcomes, including low self-esteem, decreased engagement in physical activity, and increased risk for depression (Paxton et al., 2006; Stice & Shaw, 2002). It is an important factor to investigate from a CSH perspective, as teachers have been identified as a critical influence in the development of healthy behaviours, such as eating behaviours (Eliassen, 2011). Further, researchers have found that negative comments about eating from a teacher were a significant influence for individuals' subsequent development of clinical eating disorders (Jacobi et al., 2011). Thus, teachers' own body dissatisfaction, and related eating attitudes and behaviours, may influence the health-related messages that children and adolescents receive in the classroom.

Weight bias is defined as negative attitudes, stereotypes, and discriminatory behaviour toward individuals with large bodies (Carels & Latner, 2016). As with body dissatisfaction, weight bias is associated with numerous negative health consequences, including eating disorders and binge-eating (Douglas & Varnado-Sullivan, 2016; Durso et al., 2012), increased stress (Tomiyama et al., 2014), depression (Stevens et al., 2016), and decreased motivation to exercise (Vartanian & Novak, 2011). Weight bias has been documented within all levels of education, including bias from peers and teachers, negatively impacting the educational experiences of individuals with large bodies (Nutter et al., 2019).

Given the association between health outcomes and students' educational experiences, our CSH approach uses a weight-neutral lens, to ensure opportunities for health promotion regardless of body weight (Russell-Mayhew & Grace, 2016). This work is situated within a research team comprised of faculty members, post-doctoral scholars, and a doctoral student, with professional backgrounds in developmental psychology, counselling psychology, and social work, as well as research interests in eating disorders, weight bias, and school mental health. As researchers interested in health education in schools, we believe CSH provides a flexible and broad framework from which to inform weight-neutral health education, and that CSH is best used from a weight-neutral perspective.

A weight-neutral stance in CSH (i.e., a stance that identifies body dissatisfaction and weight bias as risk factors for poor health) may reduce the risk of potential harm and improve the delivery of health-related messaging (i.e., non-judgemental and inclusive of children of all body sizes; Russell-Mayhew et al., 2016). As such, the CSH course was delivered with the underlying principle of a weight-neutral approach: a compassionate approach that respects, supports, and values health for individuals of all shapes and sizes (Bacon & Aphramor, 2011). A CSH approach, together with a weight-neutral stance, acknowledges the multifaceted nature of health and well-being in educational contexts. Given previous reports of teachers being unprepared to engage in health education (Russell-Mayhew et al., 2007; Vamos & Zhou, 2009), as well as the potential for teachers' own body image and weight bias to influence health education in the classroom (Nutter et al., 2019), the purpose of this research was to examine the changes in pre-service teacher weight-related attitudes following participation in a CSH course, as well as changes in their attitudes toward CSH and their perceived self-efficacy in teaching health-related content. We hypothesized that, following a weight-neutral CSH course, teachers would feel more prepared to engage in health education from a CSH perspective and would hold less negative weight-related attitudes.

Method

Participants were in their final semester of a Bachelor of Education (BEd) program and were enrolled in a mandatory course on CSH at a Canadian university. The CSH course highlighted the importance of infusing health and wellness into teaching. Specifically,

this six-week course offered pre-service teachers an introduction to the CSH framework, as well as provided ideas for applying CSH principles to their future teaching practice. The CSH course included weekly topics such as weight in schools, physical activity and nutrition, healthy relationships, positive mental health, and wellness across cultures. These topics correspond to the priority areas identified by CSH-engaged organizations, such as Ever Active Schools (everactive.org). The course included large plenary lectures, concurrent sessions offered by expert community partners, and lab instruction in small groups of 20 to 25 students. Throughout the course, students applied evidence-based health knowledge to teaching practice and school culture, engaged in experiential and practical activities, and reflected on values, attitudes, and knowledge related to personal health and wellness. In-class activities and student assignments created opportunities for students to consider each weekly topic in relation to the four pillars of CSH (i.e., teaching and learning, social and physical environments, healthy school policy, partnerships and services). Please see, as an example, the syllabus at the Werklund School of Education (https://werklund.ucalgary.ca/sites/default/files/teams/38/abbreviated-csh-course-outline.pdf) for an abbreviated course outline.

Participants

All participants were recruited from a CSH course at a Canadian university. Participants were 222 fourth year BEd students (of a possible 433 students) in their last semester of undergraduate training, who opted to partake in the optional research component of the course (response rate of 51.2%). Participants ranged in age from 21 to 50 years ($M = 27.82$, $SD = 6.23$). The sample was predominantly female (74.2%; 23% male, 2.8% non-binary) and of White/European ancestry (71.5%). The remaining participants self-identified as South Asian (9%), East Asian (7.7%), Southeast Asian (5%), Filipino (3.6%), Latino (1.4%), African/Caribbean (0.9%), Middle Eastern (0.9%), First Nations (0.9%), Metis (0.5%), and Inuit (0.5%).

Measures

Attitudes toward CSH. For the purpose of this study, a measure of attitudes toward CSH was developed by the research team. Participants rated their degree of agreement

with eight statements (e.g., "Students would ultimately benefit if school professionals worked together to implement CSH") on a 5-point Likert scale (1 = "strongly agree" to 5 = "strongly disagree"), with lower scores indicating more positive attitudes toward CSH. The measure demonstrated adequate internal consistency at both time points (pre-test α = .91, post-test α = .97).

Perceived self-efficacy to teach CSH. A modified version of Bandura's (2006) Teacher Self-Efficacy Scale was used to measure pre-service teachers' perceived efficacy in teaching CSH. In modifying Bandura's scale to measure efficacy in teaching CSH, items such as "influence the decisions that are made in the school" became "influence the decisions that are made in the school regarding comprehensive school health." This survey was comprised of 19 items, which were rated on a scale from zero ("cannot do at all") to 100 ("highly certain can do"), to evaluate participants' degree of confidence in teaching CSH, with higher scores indicating greater self-efficacy. The measure demonstrated adequate internal consistency at both time points (pre-test α = .95, post-test α = .92).

Weight-related attitudes. In addition to measuring attitudes and efficacy about CSH more generally, we also examined weight-related attitudes as a result of the underlying weight-neutral stance taken in the course. Two measures were used to evaluate pre-service teachers' weight-related attitudes: The Body Shape Questionnaire (BSQ; Cooper et al., 1987) and the Universal Measure of Bias-Fat version (UMB-Fat; Latner et al., 2008). The BSQ was used to assess participants' general body shape concerns and body dissatisfaction. Participants responded to the 14 BSQ items (e.g., "Have you been so worried about your shape that you have been feeling that you ought to diet?") on a 6-point Likert scale (1 = "never" to 6 = "always"), with higher scores indicating greater concern about body shape. The BSQ has been validated and normed on community samples (Cooper et al., 1987). The measure demonstrated adequate internal consistency at both time points (pre-test α = .95, post-test α = .97). Given that teachers' own body image represents a reflection of their attitudes and feelings about their own body, we conceptualize body image as an indicator for teachers' own eating and weight-related beliefs and, thus, a possible indicator for how eating and weight-related issues are taken up in the classroom.

The UMB-Fat was used to assess pre-service teachers' general attitudes toward individuals living in larger bodies. For the purposes of the current research, the wording

of this measure was slightly altered from "fat people" to "people with obesity," in order to use person-first language. Participants rated their degree of agreement with 20 UMB-Fat statements (e.g., "people with obesity are sloppy") on a 7-point Likert scale (1 = "strongly agree" to 7 = "strongly disagree"), with higher scores representing greater bias toward individuals living in larger bodies. The UMB-Fat has demonstrated very good convergent validity and internal consistency reliability, and has been shown to produce scores that are incongruent with socially desirable response styles (Latner et al., 2008; Puhl et al., 2014). In the current study, the measure demonstrated adequate internal consistency at both time points (pre-test $\alpha = .90$, post-test $\alpha = .91$).

Procedure

Prior to collecting data, students enrolled in the mandatory CSH course were informed of the purpose of the research study, were told that participation was completely voluntary, and were provided with research consent forms by the fourth author (who had no connection to the course). This process was done when instructors and TAs were out of the room, to ensure students did not feel undue pressure to participate. Data were collected from consenting students pre- and post-intervention (i.e., the CSH course) using surveys. As such, at the beginning of the CSH course (during their first course plenary), participants completed their first survey package. At the end of the CSH course (during their fifth lab), participants were asked to complete the same survey package in order to obtain comparable pre- and post-intervention data. Data were collected via paper and pencil surveys at pre-test, while at post-test, data were collected online through REDCap. Responses from paper and pencil pre-test surveys were manually entered into REDCap by a graduate research assistant. Once all the data were entered into REDCap, scores were downloaded into SPSS. Pre- and post-test scores were then compared to assess if pre-service teachers' understanding of health and wellness, as well as their perceived capacity to infuse CSH into their future teaching practice, changed from pre- to post-test (i.e., following their participation in the CSH course).

Analytic Plan and Data Screening

A series of paired-samples *t*-tests were used to assess changes in attitudes toward CSH, perceived self-efficacy to teach CSH, and weight-related attitudes from pre-test to

post-test. A missing values analysis on the remaining data indicated that the data were missing completely at random (Little's $\chi^2(6112) = 1030.73$, $p = .99$). Instances of missing data ranged from 0 to 14% (one item on the perceived self-efficacy to teach CSH scale at post-test). Missing values were calculated in SPSS using Estimation Maximization.

Results

The paired samples *t*-tests revealed significant increases in positive attitudes toward CSH ($t(167) = 3.81$, $p < .001$, $d = .29$) and in perceived self-efficacy to teach with a CSH focus ($t(167) = 3.17$, $p = .002$, $d = .25$). Positive attitudes toward CSH increased from 1.50 (*SD* = .56) to 1.74 (*SD* = .82) and perceived self-efficacy to teach with a CSH focus increased from 64.99 (*SD* = 14.29) to 68.19 (*SD* = 12.74). Likewise, the paired samples t-tests also revealed a significant decrease in body dissatisfaction ($t(167) = 5.05$, $p < .001$, $d = .39$) and weight stigma attitudes ($t(167) = 3.78$, $p < .001$, $d = .29$). Body dissatisfaction scores decreased from 3.11 (*SD* = 1.01) to 2.90 (*SD* = .97) and weight stigma attitudes decreased from 5.18 (*SD* = .80) to 5.03 (*SD* = .82). These findings align with the effect sizes observed in other prosocial prevention programs (see for example Tanner-Smith et al., 2018).

Discussion

As part of their BEd program requirements, pre-service teachers in this study completed a course on CSH that provided them with knowledge about health promotion from a CSH and weight-neutral framework and examined their role as a teacher in championing health in schools. After completing the course, students reported a significant increase in positive attitudes toward and self-efficacy to teach CSH, and decreased body dissatisfaction and weight bias. Training future teachers in CSH in a mandatory course resulted in significant positive changes in the value and efficacy of implementing CSH in their future role as teachers, as well as improvement in their personal attitudes and behaviors related to weight.

CSH is a framework that emphasizes health promotion in the entire school community, including students, teachers, and staff (JCSH, 2019). The emphasis on the whole

school, as well as the broad health-related goals of CSH (i.e., nutrition, physical activity, healthy relationships, positive mental well-being), position this framework as a leading strategy for health promotion. The use of CSH as a strategy for health promotion is timely, as researchers have argued that public health would benefit from a reallocation of government funding from a treatment focus in healthcare to a prevention focus in social and education spheres (Dutton et al., 2018).

Arguably, as more future teachers are trained in CSH approaches, the more likely it is that K–12 schools will successfully implement this framework. Importantly, CSH initiatives within K–12 schools have the potential to reduce the achievement gap experienced by students in socio-economically disadvantaged neighbourhoods (Heckman & Masterov, 2007). For example, Centeio and colleagues (2021) investigated the long-term impact of a CSH program on the physical activity and nutritional intake of children at four different schools in the Midwestern United States, compared to students at two comparison schools. The intervention included components related to school leadership, classroom curricula, active recess, and enhanced physical education classes. The researchers found that, compared to students in the comparison schools, students in the intervention schools achieved significantly higher scores on academic measures of reading and math (Centeio et al., 2021). Thus, training pre-service teachers in CSH may not only better equip them for engaging in health promotion in any educational context, but may be critically important for those who go on to teach in disadvantaged neighbourhoods as a way to promote healthy behaviours that will support students in these communities in their learning and achievement. A strong foundation in CSH and feelings of self-efficacy in teaching using the framework—as found in this study—may thus support pre-service teachers in closing health and achievement gaps in their future work.

Further, changes in weight-related attitudes may have an impact on the personal well-being of pre-service teachers, as well as their attitudes toward their future students. Given that body dissatisfaction and weight bias are associated with individual health consequences (Forney & Ward, 2013; Paxton et al., 2006; Stice & Shaw, 2002), the significant decrease in scores on these constructs may correlate with improved well-being. Given the increasing demands placed on teachers, improving the well-being of teachers prior to entry into the profession may help with the increase in burnout and early attrition noted in the profession (Burke et al., 2007). To complement existing evidence that supports healthy students as better learners (Bassett-Gunter et al., 2016), future studies should investigate

the indirect association that teacher well-being may have on student well-being via teaching practices in the classroom. Given these findings of Bassett-Gunter and colleagues (2016), it would not be surprising to find that healthy teachers are better able to teach well. The increasing focus on teacher self-care and resiliency, such as EdCan's Well at Work initiative (https://www.edcan.ca/well-at-work/), indicates that this is an area primed for future research.

Relatedly, personal changes in body dissatisfaction and weight bias may also have a positive impact on teachers' professional attitudes and behaviours toward students, especially those with large bodies. Previous researchers have found that pre-service teachers have a poor understanding of health, and that they engage in discussion of health education that highlights a moral, individual responsibility for health (Frane et al., 2019). Providing pre-service teachers with a weight-neutral approach to health, such as the approach taken in this CSH course, may contribute to attitude shifts leading to a positive impact on the educational experiences of students in large bodies. Such a weight-neutral approach may aid in reducing weight-based bullying in schools and would likely have a positive impact on the sense of belonging of individuals in the school community, as weight-based bullying in schools is associated with decreased feelings of belongingness and safety (Goldweber et al., 2013).

Limitations

There are a number of limitations of the current study that are important to note. First, this research did not survey pre-service teachers at an extended follow-up time period in order to establish whether or not the potential impact of this course wanes over time. Since one of the goals of this course is to increase the use of a CSH framework in teaching practice, future research that assesses for the strength of these changes over time—and in the actual classroom —is an important next step. Second, the research design does not allow for the examination of changes in behaviours in teaching practices or behavioural intentions toward students. Relatedly, teachers' body image was used as an indicator for eating and weight-related classroom instruction in the current study without the collection of relevant behavioural intentions for their future teaching. Although attitudes are important predictors of behaviour (Sheeran et al., 1999), a more thorough

examination of teaching practices and behavioural intentions with students would provide a more nuanced understanding of the impact of a CSH course on pre-service teachers. Third, although a pre-post research design was deemed as the most feasible, we recognize that surveying students throughout their programs and at multiple points throughout and following the course would allow for a more detailed understanding of change in attitudes over time. We were also unable to include a comparison group, and thus findings should not be interpreted as causal. Fourth, future research should aim to replicate the current findings in a more gender and racially diverse sample. We attempted to do so during the 2019–2020 academic year, but experienced course implementation issues in the final weeks of the course due to the COVID-19 pandemic. Finally, there is a need for empirically validated and standardized measures of CSH. Although the measures used in the current study have been used in previous research (i.e., Russell-Mayhew et al., 2015), these measures have not been formally validated.

Conclusion

Overall, this research provides strong preliminary evidence that a six-week course on CSH was associated with changes to pre-service teachers' attitudes and self-efficacy toward teaching CSH, as well as benefits for reducing body dissatisfaction and weight bias in the teachers themselves. These results are important for further establishing CSH as a framework that will better prepare teachers to deliver health curricula, to engage in health promotion in ways that will support the healthy development of children and youth, and to attend to their own well-being needs.

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