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Professional Development Activities and Support Among Secondary Health Teachers

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Abstract

1 This study described public school secondary health education teachers' support for professional
2 development and the types of professional development activities in which they participated.
3 Results were compared to public school secondary teachers of all other subjects. In addition,
4 perceptions of professional preparation among newly hired health teachers and the types of
5 professional support they received were described. Data were collected through the 2011-12
6 Schools and Staffing Survey (SASS) and included a nationally representative sample of public
7 school teachers in the United States. Descriptive statistics were used to analyze data and answer
8 research questions. Results showed that for nearly all types of professional support assessed,
9 secondary health education teachers reported less support as compared to secondary teachers of
10 all other subjects. Of the teaching skills questioned, newly hired health education teachers
11 indicated they were least prepared in handling a range of classroom management or discipline
12 situations and using data from student assessment to inform instruction. Moreover, newly hired
13 health teachers were less like to participate in programs for beginning teachers as compared to
14 their newly hired teaching peers. Using results from this study recommendations concerning
15 professional development support and activities among secondary health teachers and newly
16 hired secondary health teachers were provided.

17 *Keywords:* professional development, professional preparation, health education
18 teachers, newly hired teachers.

19

20 *Word count: 4993*

Professional Development Activities and Support Among Secondary Health Teachers

21 Worldwide, there is an established link between health and education which has resulted
22 in efforts to foster health and well-being within the educational environment for all students (St.
23 Leger, Young, Blanchard, & Perry, 2009). For example, in the United States (U.S.), wellness
24 behaviors such as healthy eating and physical activity have been linked to improved academic
25 achievement among youth in terms of academic performance (i.e. grades), educational behavior
26 (i.e. attendance), and cognitive skills and attitudes (i.e. memory and mood) (Centers for Disease
27 Control and Prevention [CDC], 2014). With this established link between health, academic
28 achievement, and educational attainment, schools provide a practical setting for promoting the
29 overall wellbeing of youth by helping them establish lifelong healthy behaviors (Basch, 2011).
30 As noted by the World Health Organization (WHO) (2017), in 2013 most children of primary
31 school age (> 90%) and lower secondary school age (> 80 %) were enrolled in school globally,
32 therefore schools serve an ideal setting for health education and promotion among children.
33 Furthermore, research suggests that schools can successfully promote healthful behaviors among
34 youth. Notably, among high-income countries, health promoting schools were found to
35 influenced children's health by reducing risk factors for noncommunicable diseases, such as
36 increasing physical activity, increasing intake of fruits and vegetables, and reducing tobacco use
37 (WHO, 2017). Similarly, in the U.S., research has shown that school health programs can reduce
38 the prevalence of health risk behaviors among youth (CDC, 2017).

39 Theoretical Foundation

40 Establishing healthy behaviors during childhood that may be carried into adulthood are
41 most likely to be achieved through partnerships with schools, government agencies, community
42 organizations, and other community members (ASCD, 2014; St. Leger et al., 2009; WHO, 2017).

43 The Whole School, Whole Community, Whole Child (WSCC) model, recently developed by the
44 CDC and ASCD with participation from leaders in the fields of health, public health, education,
45 and school health education, seeks to improve learning and health among youth in U.S. schools
46 by incorporating a collaborative and comprehensive approach with schools. The WSCC model
47 includes ten components: Health Education, Physical Education and Physical Activity, Nutrition
48 Environment and Services, Employee Wellness, Social and Emotional School Climate, Physical
49 Environment, Health Services, Community Involvement, Family Engagement, and Counseling,
50 Psychological, and Social Services. This model is directed at schools and uses community
51 resources to address the needs of the whole child, which may serve as a framework for
52 improving students' academic success and health in schools (ASCD, 2014).

53 With regard to the health education component of the WSCC model, students learn skills
54 needed to make quality health decisions. Specifically, health education instruction is provided by
55 a qualified and trained health teacher so that students may gain the knowledge, attitudes, and
56 skills needed to make healthful decisions, practice healthful behaviors, become health literate,
57 and promote the health of others (CDC, 2015). As explained by the CDC (2015), health
58 education curricula should incorporate the characteristics of an effective health curriculum,
59 which include ongoing professional development and training for teachers so they are
60 comfortable and skilled in implementing effective health education strategies and assessing
61 student learning. Rooney, Videto, and Birch (2015) noted the importance for schools to allocate
62 resources for health education curriculum and multiple opportunities for professional
63 development, which may be integrated into a school district's strategic plan for improvement. In
64 addition, the International Union for Health Promotion and Education (IUHPE) (2008), states in
65 their guidelines for health promoting schools that it is essential to have ongoing opportunities for

66 staff to attend professional development programs, ensure there are resources for appropriate
67 capacity building of staff, and provide resources that complement the fundamental role of the
68 teacher that are of a sound theoretical and accurate factual base.

69 **Professional Development**

70 In general, teachers' continuing professional development has been being given
71 increasing importance in countries throughout the world due to the positive correlations between
72 teacher quality and student achievement. Evidence-based practice for continuing professional
73 development serves as an impetus and motivation for teachers to transform their practice and
74 enhance student learning (Harrison, Hofstein, Eylon, & Simon, 2008). Many initiatives for
75 continuing professional development among teachers were initiated by government agencies
76 such as the United Kingdom (GTC [General Teaching Council] Scotland), the U.S. (*Every*
77 *Student Succeeds Act* [ESSA]), and the European Union (European Commission Directorate-
78 General for Education and Culture). In the U.S., resources to support the WSCC model specific
79 to professional development to enhance health education teaching that are associated with a
80 school districts' strategic plan for improvement may come from Federal government Title II
81 funds for professional development (SHAPE America, 2016). In 2015, the ESSA shifted the
82 nation's education focus from a few select subjects, such as mathematics and science, to a "well-
83 rounded education" for all students, which includes health education. Consequently, school
84 districts have the means to support teachers' professional development specific to health
85 education for the purpose of improving students' academic success and health as part of their
86 ESSA implementation plan, ensuring a well-rounded education for all students.

87 As reported by the U.S. Department of Education (2017), there is much empirical support
88 regarding the benefits of professional development for teachers. For example, professional

89 development enhances teachers' subject matter knowledge, improves their instructional skills,
90 and enables teachers to learn state-of-the-art teaching techniques. In addition, there is an
91 emerging base of research to support that professional development influences student learning
92 and achievement. This evidence base for professional development that improves teaching and
93 learning also assessed the quality and effectiveness of professional development activities, such
94 as coaching and mentoring, collaboration among colleagues, and observing and discussing
95 classroom practice (Caena, 2011; Darling-Hammond, Wei, Andree, Richardson, & Orphanos,
96 2009; DeMonte, 2013). For instance, studies have found that beginning teachers who participate
97 in teacher induction programs perform better at various teaching skills (i.e. classroom
98 management) and their students had higher academic achievement (Ingersoll & Strong, 2011).
99 There is also empirical support that improved teacher practice and student learning resulted from
100 specific types of professional development; such as, focusing on the teacher's content area,
101 observing expert teachers or leading discussions, and shared participation among teachers (i.e.
102 same subject area) (Caena, 2011; U.S. Department of Education, 2017). In addition, Desimone
103 and Garet (2015) concluded that research has demonstrated the important role of school leaders'
104 support for professional development activities in terms of providing time for teachers to
105 participate in professional development and to implement strategies learned.

106 The U.S. Department of Education (2017) noted that all teachers should have equal
107 access to high quality professional development and provided a description of teacher
108 professional development in the United States during the 2011-2012 school year with regard to
109 selected teacher and school characteristics. However, their reported results concerning teacher
110 professional development were for all teachers and not specific to teachers' content areas. As a
111 result, baseline data are needed to describe the health education component of the WSCC model

112 by describing professional development opportunities and support among health education
113 teachers in the U.S., which will serve to determine the extent that health education programs are
114 incorporating the characteristics of an effective health curriculum as defined by the CDC (2015).
115 These characteristics includes ongoing professional development and training for health teachers
116 to enhance their skills in implementing effective health education strategies. Moreover, baseline
117 data are needed to assess the call by Rooney et al. (2015) for schools to allocate support and
118 resources for health teachers' professional development and if they were equitable to all other
119 teachers.

120 **Purpose of the Study**

121 Therefore, the purpose of this study was to describe secondary public school health
122 education teachers' professional development activities and the types of support for professional
123 development they received during the 2011-12 academic year as compared to secondary teachers
124 of all other subjects. In addition, professional support specific to newly hired secondary health
125 teachers was described, as well as their perceptions of how well prepared they were during their
126 first year of teaching with regard to selected instructional skills. Therefore, specific research
127 questions include:

- 128 1. In what professional development activities did secondary public school health
129 education teachers participate as compared to secondary public school teachers of all
130 other subjects?
- 131 2. What support for professional development did secondary public school health
132 education teachers received as compared to secondary public school teachers of all
133 other subjects?

- 134 3. What professional support did newly hired secondary public school health education
135 teachers received as compared to newly hired secondary public school teachers of all
136 other subjects?
- 137 4. What were the perceptions of professional preparation in teaching among newly hired
138 secondary public school health education teachers?

139 **Method**

140 This study employed a secondary analysis on an existing dataset. The data were from the
141 most recent (2011-2012) Schools and Staffing Survey (SASS), a large national data collection
142 effort conducted by the National Center for Educational Statistics (NCES) (Cox, Parmer, Strizek,
143 & Thomas, 2017). Since the early 1980's, the SASS has been conducted every 3 years using a
144 systematic sample of public, private and charter school employees, including teachers,
145 administrators and library media specialists. Notably, for the first time, the 2011-2012 SASS, has
146 included health education as a subject area exclusive of physical education.

147 **Participants**

148 The SASS data used in this analysis were collected from public school teachers in the
149 United States teaching in K-12 schools and districts during the 2011-2012 school year. The
150 population of "teachers" was defined as personnel in public schools who teach regularly
151 scheduled classes to students (N = 37,497). The definition for secondary education used for this
152 study corresponds with the U.S. equivalent for the International Standard Classification of
153 Education levels, which includes Grades 7 through 12 (U.S. Department of Education, n.d.).
154 Secondary health education teachers were those individuals who selected this discipline as their
155 primary teaching responsibility (n = 344). Secondary health teachers were compared to all
156 secondary teachers who selected any other subject area as their primary subject area (n =

157 25,894). Newly hired secondary teachers were individuals who indicated that they began
158 teaching at any point during the 2008-09 school year through the 2010-2011 school year (n =
159 5,945).

160 **Sampling Procedures**

161 The sampling procedures were conducted by the NCES and explained in the SASS NCES
162 Handbook of Survey Methods (Goldring, Taie, Rizzo, Colby, & Fraser, 2013). Because no single
163 sample frame exists for all teachers in the United States, NCES had to employ a cluster
164 methodology using school buildings as the sampling unit with data from the NCES Common
165 Core of Data for the same academic year as the survey providing the most current listing of
166 American schools which included the 50 states. Additional public schools from alternative and
167 juvenile justice system schools were added to produce a sample frame of 90,530 public schools.
168 A total of 11,000 public schools from 5,798 districts were comprised in the sample, from which
169 37,497 teachers were surveyed. Within this selected sample, teacher experience was used as a
170 strata to ensure a representative sample of novice and experienced teachers. Early career
171 teachers answered additional questionnaire items related to their experiences starting in the
172 profession.

173 A stratified complex design was used to weight individual teachers to correct for bias due
174 to systematic oversampling of certain population members. Weights developed by NCES were
175 applied to the SASS dataset to approximate the population of public school teachers by
176 correcting for this oversampling of some elements. The final weighted sample (N) of public
177 school teachers was 3,385,171. This weighted sample was nationally representative of public
178 school teachers and can be generalized to the population of public school teachers in the U.S.

179 **Instrumentation**

180 Data for this study were from the *Teacher Questionnaire: Schools and Staffing Survey*
181 *2011-2012* (U.S. Department of Education, 2011). The Education and Training section of the
182 questionnaire was used to identify newly hired teachers' perceptions of their professional
183 preparation and types of professional development activities they experienced. Questions related
184 to professional development activities were from the Professional Development section of the
185 instrument. Weighted unit response rates for public school teachers were 77.7%.

186 **Data Analysis**

187 The analysis presented was calculated using weighted frequencies and percent. Each case
188 in the data file was assigned a weight calculated by NCES which compensates for differential
189 selection bias introduced by the sampling design. SPSS software was used for analysis which
190 supports the use of a weighting variable for frequencies and percent. The data presented
191 represents an estimate of the population parameters for the selected group of teachers.
192 Descriptive statistics were used to analyze data and answer research questions. For this analysis,
193 weighted Ns were reported to ensure generalizability from the sample population.

194 **Human Subjects Approval Statement**

195 Human subject approval for this study was provided by the IRB Office at [name of institution of
196 higher education removed for peer review].

197 **Results**

198 Overall, public school secondary teachers in the U.S., during the 2011-2012 academic
199 year (N = 1,553,401), were 36.3% male and 63.7% female. Most common responses for
200 race/ethnicity were White (90.0%), Black or African-American (7.5%), Hispanic or Latino
201 (6.9%), Asian (2.4%), and American Indian or Alaska native (1.4%). Responses for all other

202 race/ethnic groups were less than one percent. Total percent for race/ethnicity was greater than
203 100 percent as respondents were able to mark one or more races on the SASS questionnaire.

204 Table 1 shows that compared to public school secondary teachers of all other subjects,
205 secondary health education teachers more likely to participate in professional development
206 activities such as university course(s) related to teaching, use of computers for instruction, and
207 student discipline and classroom management. They were also more likely to present at
208 workshops, conferences, or training sessions as compared to other secondary teachers, but less
209 likely to attend workshops, etc., if they were not presenting. In addition, secondary health
210 education teachers were less likely to have observation visits to other schools or attend
211 professional development activities that concentrated on, and were specific to, their subject area.
212 Approximately one quarter (24.0%) of all secondary teachers of other subjects, and even fewer
213 secondary health education teachers (20.1%) reported professional development activities related
214 to teaching limited-English proficient students or English-language learners (ELLs). Moreover,
215 secondary health education teachers participated in fewer professional activities that focused on
216 how to teach students with disabilities as compared to their teaching peers. Overall, of the nine
217 professional development activities presented on the SASS 2011-12 (U.S. Department of
218 Education, 2011), secondary school health education teachers reported less participation in more
219 than half. Congruently, they reported receiving less support for professional development as
220 compared to secondary teachers of all other subjects.

221 The SASS 2011-12 inquired about six different types of support teachers received during
222 the academic year (see Table 1). In all categories, secondary school health education teachers
223 reported they received less support for professional development as compared to secondary
224 teachers of all other subjects, with the exception of full or partial reimbursement of college

225 tuition. In general, three-quarters of secondary teachers reported that support for professional
226 development occurred during scheduled time in their contract year. Less than half of all
227 secondary teachers reported receiving support for the remaining five categories of professional
228 development.

229 [Insert Table 1 here]

230 Results inquiring about the types of professional support received by newly hired
231 teachers were presented in Table 2. Over ninety percent of newly hired secondary school health
232 education teachers reported receiving supportive communication with their principal, other
233 administrators, or department chair, as compared to just over three-quarters of secondary
234 teachers of all other subjects. Health teachers also reported more support than other all other
235 secondary teachers by having a common planning time with teachers of their subject, receiving
236 extra classroom assistance (e.g. teacher aides), and having a reduced teaching schedule or
237 number of preparations. However, newly hired secondary health education teachers reported less
238 support than newly hired secondary teachers of all other subjects in programs commonly
239 designed specifically for beginning teachers, such as: participating in a teacher induction
240 program, working closely with a mentor or master teacher who was assigned by their school
241 district, and having seminars or classes for beginning teachers. These professional development
242 programs may help newly hired teachers enhance instructional skills learned during their college
243 teacher education programs.

244 [Insert Table 2 here]

245 Concerning the professional preparation of newly hired teachers, the SASS 2011-12
246 asked newly hired teachers how prepared they were in their first year of teaching with regard to
247 eight key instructional skills. Table 3 describes secondary school health education teachers'

248 responses. Most notably, 90.2% and 88.0% of newly hired secondary health teachers felt they
249 were well prepared or very well prepared to meet state content standards and teach their subject
250 area during their first year of teaching, respectively. In addition, approximately three-quarters
251 reported they were well prepared or very well prepared to assess students (76.7%) and use
252 computers for instruction (74.1%) during their first year of instruction. However, over one-third
253 of newly hired secondary health teachers reported they were only somewhat prepared or not at
254 all prepared in the remaining instructional skills, such as use of a variety of instructional methods
255 (36.2%) and differentiating instruction in the classroom (35.4%). They felt least prepared by
256 reporting they were not at all prepared or somewhat prepared in handling a range of classroom
257 management or discipline situations (42.6%) and using data from student assessment to inform
258 instruction (44.7%).

259 [Insert Table 3 here]

260 **Discussion**

261 The WSCC model focuses on aligning public health and education to improve each
262 child's cognitive, physical, social, and emotional development (CDC, 2015). Health education, a
263 component of the WSCC model, emphasized health education instruction that is taught by
264 trained health education teachers and incorporates characteristics of an effective health
265 curriculum. One characteristic of an effective health curriculum is ongoing professional
266 development for teachers. The importance of professional development, in general, as a
267 characteristic of effective teaching has been given increased importance worldwide, which has
268 resulted in increased emphasis on funding of teachers' professional development activities
269 (Caena, 2011; Fraser, Kennedy, Reid & Mckinney, 2007). Most recently, in the U.S., Title II
270 funds from the ESSA offer support so that all teachers have professional development

271 opportunities to improve their instructional knowledge and skills to positively affect student
272 achievement. For health education teachers, professional development provides them with the
273 knowledge and skills to not only improve student learning but to positively influence the health
274 and well-being of all students. Health education teachers do this by employing planned learning
275 experiences that include a skills-based approach to health education, which provides student with
276 the opportunity to acquire the knowledge, attitudes, and skills they need to make health
277 promoting-decisions.

278 Planned learning experiences are based on an assessment of student health needs. As
279 noted in the 2008 Initial Health Education Teacher Education (HETE) Standards (SHAPE
280 America, n.d.), graduates of school health education programs should be proficient in conducting
281 needs assessments to determine priorities for school health education. Specifically, health
282 teachers should be able to infer needs for health education from data obtained, align health
283 education curricula with needs assessment data, and use assessment result to guide future
284 instruction. However, teacher reported data from this study showed that nearly 45% of newly
285 hired health education teachers expressed that they were only somewhat or not at all prepared to
286 use data from student assessment to inform instruction. As noted by Niemi (2015), professional
287 development begins during initial teacher education programs and continues throughout a
288 teacher's career. Findings from this study suggest that professional development opportunities
289 for newly hired health education teachers should be coordinated with initial teacher education
290 programs to support HETE standards that target skills needed to use student assessment data to
291 guide instruction, thereby providing a continuum of professional support for novice health
292 teachers.

293 Although the HETE Standards state that teacher candidates should exhibit competence in
294 classroom management (SHAPE America, n.d.), over 40% of newly hired health education
295 teachers reported that they were somewhat or not at all prepared to handle a range of classroom
296 management or discipline situations. Again, with coordinated efforts between HETE programs
297 and teacher professional development for newly hired health teachers, their instructional needs to
298 become highly effective teachers may be achieved. For example, professional development
299 support in the form of teacher induction programs have been found to be effective in helping new
300 teachers successfully demonstrate classroom management skills (Ingersoll and Strong, 2011).
301 However, this study found that as compared to newly hired secondary teachers of all other
302 subjects, newly hired health education teachers were less likely to have participated in teacher
303 induction programs or have seminars or classes for beginning teachers. Furthermore, they were
304 less likely to have been assigned to work closely with a master or mentor teacher. Findings from
305 this study suggest school districts improve their professional development opportunities for
306 newly hired health teachers that are designed specifically to support beginning teachers. As noted
307 by Ingersoll and Strong (2011), many studies have shown that teacher inductions program had
308 positive impacts on classroom instructional practices and student achievement. Furthermore, the
309 European Commission (2010) emphasized the importance of support for new teachers in the
310 form of induction programs when new teachers are confronted with the realities of daily teaching
311 and the importance of mentoring during teacher induction programs. Therefore, based on
312 findings from this study, recommendations regarding newly hired health teachers are twofold:
313 School districts should not only provide beginning health teachers professional development that
314 serves as a continuum of initial teacher education programs, but provide health education

315 teachers with the same access to teacher induction programs, seminars, or classes offered to their
316 beginning teachers of all other subjects.

317 Moreover, professional development programs for beginning teachers may help bridge
318 the gap between initial teacher education and continuous professional development with regard
319 to enhancing health education teachers' instructional skills in the classroom. In this study, over
320 one-third of newly hired secondary health teachers reported they were ill prepared to use a
321 variety of instructional methods and differentiate instruction in the classroom. And as previously
322 noted, the health education component of the WSCC model stresses implementation of
323 characteristics of effective health curricula which requires ongoing professional development and
324 training for teachers so they are skilled in implementing effective health education strategies
325 (CDC, 2015).

326 More favorable results from this study showed that over 90% newly hired health teachers
327 reported receiving regular supportive communication with their principal, other administrator, or
328 department chair. Also, as compared to newly hired secondary teachers of all other subjects, a
329 greater percentage of newly hired health teachers reported having a common planning time with
330 teachers in their subject. Approximately 60% and 50% of newly hired secondary health teachers
331 and secondary teachers of all other subjects reported common planning time, respectively.
332 Notably, more school districts could provide opportunities for common planning time among
333 teachers of the same subject. These professional development opportunities are advantageous for
334 school districts to include in their school improvement plans as research has found that
335 collaborative and collegial learning environments are essential components of effective
336 professional development (Caena, 2011; Darling-Hammond et al., 2009; European Commission,
337 2010; Niemi, 2015; Wei, Darling-Hammond, Andree, Richardson, & Orphanos, 2009). Based on

338 findings from this study, health teachers are encouraged to continue building their professional
339 support network by seeking advice and assistance from additional district staff (e.g. Director of
340 Curriculum and Instruction) and the school community (e.g. social workers).

341 Other research has highlighted the role district leaders play in supporting and
342 encouraging professional development for teachers, such as providing time for teachers to
343 participate in professional development (Caena, 2011; Desimone & Garet, 2015). Support for
344 professional development also includes financial contributions from school districts so that
345 teachers may pursue professional development opportunities. For five of the six areas of
346 professional support identified in the SASS teacher questionnaire (see Table 1), secondary health
347 education teachers reported less support as compared to secondary teachers of all other subjects.
348 These results show an inequity related to professional development support for secondary health
349 teachers, which may have been a result of *No Child Left Behind* (NCLB). With NCLB, emphasis
350 was placed on “core academic subjects” for which health was excluded. To date, the ESSA
351 emphasized a well-rounded education for all students, including health education, and therefore
352 offers school districts an opportunity to provide equal access for all teachers to high quality
353 professional development that improves learning and academic success for all students. With this
354 new legislation, health teachers have the opportunity to receive equal access to professional
355 development opportunities as compared to all other secondary teachers.

356 Wei et al. (2009) states that high quality or effective professional development
357 incorporates research that links teacher development to student learning. The researchers further
358 stated that professional development had strong effects if it focused on specific knowledge and
359 pedagogical skills. This study showed that approximately three-quarter of secondary health
360 education teachers reported participating in a professional activity that was specific to the subject

361 they taught, however, once again, this rate was lower than secondary teachers of all other
362 subjects. A higher percent of secondary teachers of all other subjects reported participating in
363 professional development that was specific to their subject area as compared to secondary health
364 teachers (see Table 1). Furthermore, secondary teachers of all other subjects were more likely to
365 attend workshops, etc., when not presenting, as well as to be reimbursed for workshop and travel
366 expenses, as compared to secondary health teachers.

367 Finally, professional development should provide teachers with the knowledge and
368 pedagogical skills to create environments that support student achievement which are inclusive
369 and supportive for all students, regardless of race, ethnic origin, gender, sexual orientation,
370 religion, or physical ability. Relatedly, the SASS teacher questionnaire asked respondents if they
371 participated in professional activity about how to teach students with disabilities. This study
372 found that about one-third of secondary health teachers reported they had participated
373 professional activity about how to teach students with disabilities, as compared to approximately
374 40% of teachers of all other subjects. And, less than one-quarter of all secondary teachers
375 reported participating in professional development on how to teach limited-English proficient
376 student or ELLS. The trend in findings continue as health teachers reported lower professional
377 activity participation rates for this topic area as compared to teachers of all other subjects. These
378 results provide a glimpse of not only of secondary health teachers' professional development
379 activities, but suggests that all secondary teachers' professional development activities related to
380 creating an environment that is inclusive and support of *all* children is limited.

381 **Recommendations**

382 As previously indicated there is much empirical evidence that professional development
383 enhanced teachers' content knowledge and classroom pedagogy in ways that were associated

384 with improved learning for all students. With support from school districts and professional
385 commitment among secondary health teachers, all students may receive quality health education
386 instruction so they may acquire the knowledge and skills needed to make health-enhancing
387 decisions and establish lifelong health behavior patterns. Findings from this study provided
388 insight about the professional development needs of secondary health teachers so they may
389 implement quality health education instruction. Therefore, the following recommendations are
390 offered to meet the professional development needs of secondary health teachers:

- 391 1. School districts may establish quality professional development for health teachers through
392 increased collaboration between HETE programs and school districts by adopting a three-
393 phase model for career-long health education teacher professional development that is
394 continuous, and includes; (a.) HETE programs, (b.) professional development designed for
395 newly hired teachers, and (c.) professional development for experienced teachers (Bautista,
396 A., Wong, J., & Gopinathan, S., 2015; European Commission, 2010; Niemi, 2015).
- 397 2. Recommended topics to include in professional development programs designed for newly
398 hired health teachers are using data from student assessments to inform instruction, handling
399 classroom management and discipline situations, using a variety of instructional methods,
400 and differentiating instruction in the classroom. Also, HETE programs may review and revise
401 their current curriculum with regard to these topics in order to better meet the instructional
402 needs of their health teacher candidates.
- 403 3. Health education teachers may continue to build their professional development support
404 networks by seeking advice and assistance from other school staff and district partners, such
405 as literacy specialist, educators of special needs students, social workers, curriculum and
406 instruction specialists, nurses, and school psychologists (Niemi, 2015).

- 407 4. The ESSA, which emphasizes a well-rounded education for all students, provides an
408 opportunity for health teachers to advocate for equity in professional development
409 opportunities as compared to teachers of all other subjects and for high quality professional
410 development specific to health education that improves learning and academic success for
411 all students. For example, health teachers may serve on their district's committee that
412 develops district-wide professional development plans. While on this committee they may
413 advocate for annual health education professional development and for equal opportunities
414 for health education professional development as compared to all other subjects.
- 415 5. Health teachers may apply for grants (i.e. through their school's parent-teacher associated or
416 educational foundation) to secure financial support to attend professional development
417 conferences.
- 418 6. In addition to the need for professional development specific to health education content
419 knowledge and pedagogy, secondary health education teachers should be included in
420 professional development activities that allow them to create supporting learning
421 environments for all students, regardless of race, ethnic origin, gender, sexual orientation,
422 religion, or physical ability.
- 423 7. Secondary health education teachers may subscribe to health education journals which
424 describe new and innovative teaching practices and offer examples of best practice. They
425 may also seek out professional development opportunities specific to health education
426 knowledge and pedagogy by attending webinars, reading professional journals, and
427 becoming active members of professional organizations, such as the Society of Public Health
428 Education.

429 **Limitations**

430 Subjects self-reported the data and missing responses were imputed. To compensate for
431 individual item nonresponse bias, NCES used a multi-stage imputation process to derive values
432 that would have a high likelihood of matching the probable response pattern. Item nonresponse
433 rates between health education teachers and the rest of the population were similar on the
434 reported items at between 1 and 1.5% (Goldring, Taie, Rizzo, Colby, & Fraser, 2013).

435 **Declaration of Conflict of Interest**

436 The author declared no potential conflicts of interest with respect to the research,
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 527 Table 1
 528 *Professional Development During the Past 12 Months Among Secondary Public School Health Education*
 529 *Teachers as a Percentage of the Population (N = 1,553,401)*
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Survey Item	Heath Ed. Teachers (n = 18,864)	All Other Teachers (n = 1,534,537)
	<u>Yes</u>	<u>Yes</u>
535 Participated in professional activity, such as:		
536 Attended workshops, etc., but not presenter	85.1	89.7
537 Concentrated on, and specific to, subject(s) taught	76.5	79.1
538 Focused on use of computers for instruction	70.1	66.4
539 Focused on student discipline and classroom management	51.6	42.0
540 How to teach students with disabilities	32.9	38.3
541 University course(s) related to teaching	30.3	28.1
542 Presenter at workshops, conferences, or training sessions	24.8	23.2
543 How to teach limited-English proficient students or ELLs*	20.1	24.0
544 Observation visits to other schools	16.0	19.3
545		
546 Received support for professional development, such as:		
547 Scheduled time in the contract year	74.2	76.3
548 Release time from teaching (someone else assigned to teach)	41.9	47.8
549 Reimbursement for conference or workshop fees	27.0	31.0
550 Reimbursement for travel and/or daily expenses	20.5	23.9
551 Stipend for activities outside of work hours.	19.2	25.0
552 Full or partial reimbursement of college tuition	11.2	9.7

553 *ELLs (English-language learners)

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559 Table 2

560 *Types of Professional Support Received Among Newly Hired Secondary Public School Health Education*
 561 *Teachers as a Percentage of the Population (N = 297,021)*

563	Survey Item	Health Ed. Teachers (n = 4,480)	All Other Teachers (n = 292,541)
564		<u>Yes</u>	<u>Yes</u>
566	During your first year of teaching, did you:		
567	Receive regular supportive communication with principal, other administrators, or department chair?	90.4	76.1
568	Participate in teacher induction program?	74.8	85.7
569	Work closely with a master or mentor teacher who was assigned by your school or district?	66.4	74.2
570	Have seminars or classes for beginning teachers?	60.2	65.1
571	Have common planning time with teachers in your subject?	59.6	50.1
572	Receive extra classroom assistance (e.g. teacher aides)?	29.2	22.6
573	Have reduced teaching schedule or number of preparations?	19.5	11.5

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585 Table 3

586 *Perceptions of Professional Preparation Among Newly Hired K-12 Public School Health Education*
 587 *Teachers as a Percentage of the Population (N = 4,480)*

		Prepared				
		Not at all	Somewhat	Well	Very Well	Total
594	In your first year of teaching, how prepared					
595	were you to:					
596	Meet state content standards?	1.0	8.8	43.4	46.8	100.0
597	Teach your subject matter?	0.7	11.4	41.5	46.5	100.0
598	Assess students?	2.1	21.5	55.3	21.4	100.0
599	Use computers in classroom instruction?	1.6	24.3	56.9	17.2	100.0
600	Differentiate instruction in the classroom?	1.9	33.5	54.5	10.2	100.0
601	Use a variety of instructional methods?	1.0	35.2	50.5	13.3	100.0
602	Handle a range of classroom					
603	management or discipline situations?	4.6	38.0	41.2	16.3	100.0
604	Use data from student assessment to					
605	inform instruction?	4.8	39.9	46.6	8.8	100.0

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