Addressing School District Readiness for Elementary Health Education Using the Transtheoretical Model

Sarah E. Toth, PhD, MEd, MCHES
Assistant Professor
Alabama A&M University
College of Education, Humanities and Behavioral Sciences
Department of Health Science, Human Performance & Communicative Disorders
100 Drake Drive
Elmore Building
Normal, AL 35762
Telephone: 256.372.8261
Email: sarah.toth@aamu.edu

Retta R. Evans, PhD, MCHES
Associate Professor
The University of Alabama at Birmingham
School of Education
Department of Human Studies
Education Building 204
1720 2nd Avenue South
Birmingham, AL 35294-1250
Telephone: 205.996.2701
Email: rrevans@uab.edu

Marcia R. O'Neal, PhD
Research Associate Professor
The University of Alabama at Birmingham
School of Education
Department of Human Studies
Education Building 233
1720 2nd Avenue South
Birmingham, AL 35294-1250
Telephone: 205.934.6549
Email: moneal@uab.edu

M. Christine Highfill, MA
Graduate Research Assistant
The University of Texas at Arlington
School of Social Work
211 South Cooper Street
Arlington, TX 76019
Telephone: 872.760.3607
MHighfill@mavs.uta.edu

ABSTRACT

The elementary classroom offers a potentially favorable setting to impact student health. However, research indicates that Elementary Health Education (EHE) is frequently omitted or haphazardly delivered. Traditional efforts in educational change have had limited success and lack a theoretical foundation. ***Purpose:*** *The purpose of this study was to investigate the organizational readiness of a public school district in Alabama for the delivery of 60 minutes of weekly Elementary Health Education (EHE) using constructs of the Transtheoretical Model (TTM). The current study was intended to identify the stage of readiness; determine decisional balance, self-efficacy, and the extent to which the school district was engaging in behaviors and practices that may facilitate EHE; and to inform the development*

of a customized intervention. ***Methods:*** *A quantitative, non-experimental case study of a large Alabama school district was utilized for this research. A total of 161 school district faculty and administrators completed the Elementary Health Education District Assessment Tool (EHE-DAT). Scales and subscales included current delivery, readiness, decisional balance (pros, cons), self-efficacy, beliefs, and practices within the context of the TTM framework.* ***Results:*** *Results indicated that the school district is not fulfilling the state requirements for EHE. Most of the respondents were classified in the two earliest stages of readiness for EHE: Precontemplation and Contemplation. Self-efficacy, beliefs, and practices were related to EHE readiness.* ***Conclusions:*** *The current study enhanced understanding applicable to improving and sustaining health education policy and practice. It contributed to the limited research in addressing the integration of TTM theory, change processes of schools, and readiness for EHE. Further, this work addressed the dearth of literature investigating the organizational change process of school districts relative to integrating EHE.* ***Recommendations:*** *To facilitate increased readiness, the school district should gather and disseminate information about how EHE and its delivery are defined; who is responsible; and how it is related to student achievement, health outcomes, and accountability. School district supportive practices that may facilitate readiness level progression include providing EHE teachers manuals, textbooks, curriculum materials, and professional development.*

KEYWORDS: *health education, elementary education, Alabama school district, readiness, Transtheoretical Model*

INTRODUCTION

Schools play a vital role in helping young people establish and develop healthy behaviors that can last a lifetime (Centers for Disease Control and Prevention, 2018). Schools are one of the most important health settings because programs can impact students during the most formative years of life (Cook & Kohl, 2013). Furthermore, "establishing healthy behaviors during childhood and maintaining them is easier and more effective than trying to change unhealthy behaviors during adulthood," (Centers for Disease Control and Prevention, 2011, p.2).

Health education is the combination of planned learning experiences that are designed to help individuals and communities improve their health through increasing knowledge or influencing attitudes (World Health Organization, 2018). It is based on sound theory and provides students with opportunities to acquire the information and skills necessary to make sound health decisions (Nobling & Lyde, 2015).

There is compelling evidence that health education can reduce the prevalence of health risk behaviors as well as increase academic performance in students, but this potential is not being fully realized (O'Neill, Clark, & Jones, 2016). Health behaviors and academic achievement are clearly interrelated and have far reaching consequences for students, adults, and society (Michael, Merlo, Basch, Wentzel, & Wechsler, 2015). Health outcomes are significantly related to education attainment, reducing absenteeism, increasing achievement and graduation rates--ultimately improving quality of life, increasing the years of healthy life, and stifling the cycle of poverty (Birch, 2017).

Healthy People 2020 (2018) calls for an increase in the proportion of elementary schools that provide cumulative health education instruction. Providing appropriate health education to children is an effective way to improve their health (Belcastro & Ramsaroop-Hansen, 2017). Health promotion and prevention in students is largely influenced by health education (Rajan, Roberts, Guerra, Pirsch, & Morrell, 2017). Health education may increase content knowledge and create an environment supportive of healthy behaviors, making an impact in a variety of health behaviors in children such as tobacco prevention, nutrition, and physical activity (Fahlman, Hall, & Gutuskey, 2013; Birch, 2017).

Elementary Health Education

Classroom teachers are the key to delivering quality health education to students (Clark, Brey, & Clark, 2013). One of the primary responsibilities of elementary teachers in health education is implementing instruction. Health instruction is crucial at the elementary level, and elementary teachers are the ones charged with teaching health to students (Clark, Clark, & Brey, 2014). Efficacious teachers have great

potential to positively impact the health status and academic performance of their students (Clark et al., 2013). However, teachers have little to no preservice training in the content area of health or health education methodology (Sofo, Thompson, Freshwater, & Krebs, 2014). Of the more than 3,000 four-year, degree-granting postsecondary Title IV institutions (National Center for Education Statistics, 2014), only 57 offered accredited health education programs (Clark, et al., 2014). In a study of one teacher education program that did offer a health education methods course, 39% (n=28) of the education majors surveyed said that they would not integrate health education into their classrooms (Sofo et al., 2014). Among the reasons for planning to omit health education, the most common included: not enough training in health education (67%, n=48), not enough training in integrating health education across the curriculum (50%, n=36), not enough time in the day / not enough class time (69%, n=49) (Sofo et al., 2014).

Current teaching practice in health education is far from ideal in elementary classrooms and current research in this topic area is virtually non-existent. Evidence exists that when teachers offer health education, it is provided using a crisis-response approach that includes short-term programs without allowing for a comprehensive, evidence-based curriculum (Vamos & Zhou, 2007; Raney, Henriksen, & Minton, 2017; Gregory, 2015). Only one of 16 (6.25%) of class room teachers in the Raney et al. study endorsed integrating a full complement of fitness and health topics into her curriculum. All 16 teachers said that if they had not participated in the training by Raney et al., they would have introduced less than 25% of the health topics covered in the training.

Experienced teachers report significant barriers to a systematic approach to health education. In classrooms where elementary health topics are being taught, there is not enough time devoted to the subject to allow for any thoroughness (Gregory, 2015). Additionally, individual school districts vary in the resources they provide their teachers to implement national models of elementary health education (Rooney, Videto, & Birch, 2016). Research further demonstrates that when cost-free health and fitness programs are available, even physical education teachers frequently do not implement them (Allums-Featherston, Candelaria, Anderson, Bai, & Saint—Maurice, 2015).

State Guidelines

The vast majority of states, 84%, require health education in elementary school (Clark et al., 2014). Health education is even more robustly supported at the local level, with approximately 93% of American public school districts supporting the integration of at least one of the 15 health topics into their local classrooms (Clark, et al., 2014). However, most teachers do not have certification in health education or any adequate training in health education (Fahlman et al., 2013). Only 20% of states and 35% districts require endorsement in health education of their new teachers (Clark et al., 2014).

In the state of Alabama, health education is required in kindergarten through eighth-grade and is to be provided by certified teachers (*Alabama Course of Study*, 2009). Additionally, the guidelines suggest that for first through sixth grade, there should be 60 minutes of health instruction per week separate from physical education (*Alabama Course of Study*, 2009). For Kindergarten, there are no established time allotments for any subject areas, including health (*Alabama Course of Study*, 2009).

Transtheoretical Model

Overall, little is known about school district receptivity to change in the area of health education implementation. The Transtheoretical Model (TTM) has a sound record in explaining and facilitating change in a wide variety of health behaviors in individuals and has been successfully applied to organizations (Clark, 2013; Horwath, Schembre, Motl, Dishman, & Nigg, 2013; Sams, Rozier, Wilder, & Quinonez, 2013; Romain, Horwath, & Bernard, 2018).

<u>Readiness Stages</u>

According to the seminal work of Prochaska and DiClemente (1983), which was proven relevant still today (Hayden, 2014), the basic premise of the TTM is that behavior change occurs in specific and sequential readiness stages. These readiness stages are described as:

1. Precontemplation—not intending to take action within the next 6 months.
2. Contemplation—intending to take action within the next 6 months.
3. Preparation—intending to take action in the next 30 days.
4. Action—made overt changes less than 6

months ago.
5. Maintenance—made overt changes more than 6 months ago.

Readiness stages are characterized as emotional or behavioral changes and experiences that are manifested by attitudes, beliefs, and receptiveness to information (Horwath 2013; Whysall, Haslam, & Haslam, 2007; Velasquez, Crouch, Stephens, & DiClemente, 2016).

Decisional Balance and Self-Efficacy

Core constructs of the TTM include decisional balance and self-efficacy (DiClemente, 2018). Decisional balance, or the pros and cons of changing, is the consideration of potential gains and losses associated with the behavior change (DiClemente, 2018; Prochaska & Velicer, (1997). Self-efficacy is the belief in one's own ability to attain a desired goal which can affect persistence and motivation (Bandura, 1977). Decisional balance and self-efficacy are strong predictors of behavior change (Levesque, J. M. Prochaska, & J. O. Prochaska, 1999).

PURPOSE

The purpose of this study was to investigate the organizational readiness of a public school district in Alabama for the delivery of 60 minutes of weekly Elementary Health Education (EHE) using constructs of the Transtheoretical Model (TTM). The current study was intended to identify the stage of readiness; determine decisional balance, self-efficacy, and the extent to which the school district was engaging in behaviors and practices that may facilitate EHE; and to inform the development of a customized intervention.

Research Questions

Accordingly, the following questions were addressed:
1. To what extent are the Alabama Course of Study guidelines for EHE being met by the school district?
2. What is the school district's level of readiness for EHE?
3. What is the school district's decisional balance of pros and cons for EHE?
4. What is the school district's level of self-efficacy for EHE?
5. What are the school district's beliefs for EHE?
6. What are the school district's practices for EHE?

METHODS

A quantitative, non-experimental case study was utilized for this study. Non-experimental quantitative research is highly important and frequently employed in the field of health education (Cottrell & McKenzie, 2011; Salazar, Crosby, & DiClemente, 2015). Not only is this design used for answering critical questions in the profession, it also examines participant attitudes, beliefs, behaviors, and knowledge. The study also used the TTM as a framework.

IRB Approval and Informed Consent

The Institutional Review Board at the University of Alabama at Birmingham approved the study. Consent was gained from participants through a cover letter distributed with the EHE-DAT. Return of the instrument implied consent. The cover letter described the purpose of the study, outlined participant rights, and stated that involvement in the research was voluntary.

The chosen school district was solicited because of its geographical location in Alabama, and it was large enough to accommodate the parameters of the study. It was selected because of school district administration interest in the research and willingness to participate. To protect anonymity and confidentiality, no additional description will be disclosed regarding the school district. Permission was gained from the district central office through a formal letter that included the purpose of the study, the estimated amount of time for data collection from participants, and the way data and results would be used.

Data Collection

The school district's in-service at the beginning of the school year, a mandatory time for the district faculty and administrators to meet together, was used for data collection. This event provided the researcher the opportunity to gather data at one time from the largest possible audience of school district administrators and elementary faculty. This dedicated time of preparation was ideal for the cross-sectional nature of the study. The EHE-DAT and cover letter were distributed to attendees. Surveys took less than ten minutes to complete and were immediately collected.

Instrumentation

The Elementary Health Education District Assessment Tool (EHE-DAT) was developed for use in this study. Scales and subscales included current delivery, readiness, decisional balance (pros, cons), self-efficacy, beliefs, and practices. Formation of this tool included a prior pilot study. The instrument was found to be reliable and valid through qualitative and quantitative review. All scales and subscales had high levels of internal consistency (Toth, O'Neal, & Evans, 2018).

Limitations

The study was delimited to elementary teachers, school administrators, and district administrators in one Alabama school district. As with any research, there were potential limitations that may have impacted study findings. Participants were not randomly selected and sample size was limited due to the finite nature of the school district. Additionally, data were self-reported by participants and may be biased as a result.

RESULTS

There were 174 EHE-DAT respondents. However, 13 surveys were incomplete and excluded from the study. Surveys missing demographic data were included in the study as long as the rest of the sections were complete.

Participants

A total of 161 school district faculty and administrators completed the survey. Demographic variables in the sample included in the study were age, gender, highest degree earned, race/ethnicity, job, number of years in profession, and number of years in current position. The majority of the participants were female (94.6%), white (82.3%), and regular classroom teachers (83.3%). Age ranges were somewhat evenly distributed with the exception of under the age of 25 (.7%) and 65 and over (0%). The highest degree earned for most of the participants was a Master's degree. Approximately 80% of participants reported being in their profession for at least ten years. The number of years spent in their current position varied. Approximately a quarter of participants endorsed 0 to 3 years of experience). Another quarter had taught between 10 and 14 years. Far fewer had more than 29 years in the classroom (2.8%).

Additionally, all of the participants indicated that they hold current teaching certification in the state of Alabama. A strong majority of respondents reported that they had at least one health methodology class during their professional preparation (65%). Fewer than one-fifth of respondents had participated in health education training during the last year (18%).

Current Delivery

Current delivery of EHE was determined in Section I of the EHE-DAT, and results are provided in Table 1. The three questions from the Current Delivery section of the EHE-DAT asked respondents about the extent that EHE in their school district is being delivered 60 minutes weekly, separate from physical education, and provided by a certified teacher. Likert scale response choices included *Not at All*, *A Little*, *Moderately*, *Quite a Bit*, and *Completely*. Each ranked response choice was assigned a value of 1.00 to 5.00, respectively.

For delivery of "60 Minutes Weekly," an overwhelming majority of the respondents indicated *Not at All* or *A Little*, while very few respondents selected *Quite a Bit* or *Completely*. For delivery "Separate from Physical Education," the majority selected *A Little,* and the district was under represented by respondents who endorsed *Completely*. Responses were somewhat evenly distributed for "Provided by a Certified Teacher" with the exception of *A Little*, which was endorsed by more than 1/3 of the respondents. Very few selected *Quite a Bit*, as detailed in Table 1.

Readiness

Readiness was assessed by using a staging algorithm that is robust across populations and behaviors (Levesque et al., 1999). The staging algorithm applied to EHE read as follows in Section II of the EHE-DAT: "Given your role in the school district, are you ensuring the delivery of elementary health education?"

a.) NO, and I do not intend to in the next 6 months.
b.) NO, but I intend to in the next 6 months.
c.) NO, but I intend to in the next 30 days.
d.) YES, I have been, but for less than 6 months.
e.) YES, I have been for more than 6 months.

Multiple choice responses for the item correspond to the TTM readiness levels:

Precontemplation, Contemplation, Preparation, Action, and Maintenance.

Table 2 contains the frequencies and percentages for each response choice of the readiness item and corresponding TTM stage. A majority of the respondents were classified in the Precontemplation or Contemplation stages. The remainder were classified at various stages with almost a fifth in the Maintenance stage.

Decisional Balance

For the purposes of this study, decisional balance was the weighing of the pros and cons of delivering EHE. Section III of the EHE-DAT measured decisional balance. Specifically, the even-numbered items were the pros-subscale, and the odd-numbered items were the cons-subscale.

Respondents (n = 161) were asked to rate on a five-point, Likert-style scale how important each of the items was in their decision to ensure the delivery of EHE. Likert scale response choices for the importance of each item in ensuring the delivery of EHE included *Not at All Important*, *Somewhat Important*, *Moderately Important*, *Very Important*, and *Extremely Important*. Table 3 details respondents selections.

Pros

For all three of the pros items, the majority of responses were in the *Very* or *Extremely Important* scale choices. More than three-fourths of respondents indicated that "Students will be healthier as adults" was *Very* or *Extremely Important,* while less than 10% considered it *Not at All* or *Somewhat Important*. A similar dichotomy was evident in the number of respondents who considered it *Very* or *Extremely Important* for "Students will be less likely to get sick," as compared to those who indicated that mediating student illness was *Not at All* or *Somewhat Important*. Likewise, respondents were far more likely to endorse "Students will be more knowledgeable about health" as being *Very* or *Extremely Important* than those who chose *Not at All* or *Somewhat Important* (see Table 3).

Cons

Table 3 also contains the cons items and corresponding percentages of response choices. Responses to "My workload will increase" were evenly distributed overall with the exception of *Somewhat Important*, which was endorsed by slightly less than one third of participants. "It will take away instructional time from other subjects" responses were also evenly distributed with the exception of *Not at All Important*, which garnered far fewer selections than any other option. Respondents were split regarding "It will take a lot of planning." Very few indicated that planning was *Extremely Important*, while about a third of respondents considered planning to be a *Somewhat Important* factor.

Self-efficacy

Self-efficacy, in context of the TTM, is the confidence in one's own ability to perform the target behavior in difficult circumstances (Prochaska et al., 2006). Applied to the current study, it is the confidence in one's ability to successfully deliver EHE in specific situations. Self-efficacy was addressed in Section IV of the EHE-DAT.

Table 4 shows self-efficacy items and the percentages of response choice. For all six of the self-efficacy items, the majority of responses were in the *Not at All* or *Somewhat Confident* scale choices. For all items, the percentages for *Very* or *Extremely Confident* were under 10% with the exception of "There was limited instructional time" and "Your workload was heavy," neither of which exceeded 15%.

Beliefs

Beliefs related to EHE were measured in Section V of the EHE-DAT. Respondents (n = 161) were asked to use a five-point, Likert-style scale to rate how much they agreed or disagreed with statements related to EHE. Likert scale response choices for the importance of each item in ensuring the delivery of EHE included *Strongly Disagree*, *Somewhat Disagree*, *Neither Agree or Disagree*, *Somewhat Agree*, and *Strongly Agree*.

Table 5 shows the beliefs items and percentages for each response choice (n = 161). *Strongly Agree* had the lowest percentages for each item; ranging from 3% to 9%. Just under one third of respondents indicated *Somewhat Agree* for "It is my responsibility to ensure the delivery of EHE" and "I am accountable for the delivery of EHE," respectively. Similar percentages of respondents indicated *Strongly Disagree* for "There is adequate instructional time in the elementary grades" and "There is

adequate planning time for elementary teachers."

Practices

Practices related to EHE were measured in Section VI of the EHE-DAT. Respondents were asked to answer *yes* or *no* to questions related to the school district's EHE practices. For all of the items, *no* was the most likely response. Nearly all of the respondents indicated *no* for "Lists Health as a separate subject on elementary report cards." Similar numbers of respondents denied that lesson plans were required to be submitted for Health lessons. Slightly fewer respondents denied that health textbooks were provided to elementary students. Table 6 contains the frequencies and percentages for each response choice for each of the six practices items.

CONCLUSIONS

In the state of Alabama, health education is required in kindergarten through eighth-grade (*Alabama Course of Study*, 2009). The target behavior for the school district was to provide EHE that requires 60 minutes of weekly delivery separate from physical education by a certified teacher (*Alabama Course of Study,* 2009).

Interestingly, not a single respondent answered *Completely* for all three of the currently delivery items. According to participant responses, EHE is being delivered less than *Moderately* in all three areas (60 Minutes Weekly, Separate from Physical Education, Provided by a Certified Teacher) and overall current delivery. Study results indicate that the school district is not *completely* fulfilling the state requirements for EHE in part or whole. This finding is congruent with current literature that indicates that health education is inconsistent and infrequently taking place at the elementary level (Clark, et al., 2014; Allums-Featherston, et al., 2015; Birch, 2017).

Readiness is the intention to take action for the delivery of EHE. For readiness of EHE, a majority of the respondents were classified in the two earliest stages: Precontemplation (52% and Contemplation (13%).

In the Precontemplation or pre-thinking, stage of EHE teachers and administrators are resistant, in denial, unmotivated, or have a lack of recognition of the problem (Prochaska & DiClemente, 1982). They are not ready to change, are unaware of the consequences, or have given up trying to change (Levesque et al., 2001). Teachers and administrators may be uninformed or under-informed about the consequences of their behavior, such as failure to meet state guidelines and negative impact on student health outcomes and academic performance. At this stage, they tend to avoid reading, talking, or thinking about EHE (Glanz, Lewis, & Viswanath, 2015; Hayden, 2014; Prochaska et al., 2006).

Teachers and administrators move into the Contemplation stage when there is recognition of the problem and thinking about changing (Prochaska & DiClemente, 1982). They are aware of the pros and cons of changing but tend to be profoundly ambivalent about change and are not ready to take immediate action toward ensuring the delivery of EHE (Glanz et al., 2015; Levesque et al., 2001; Prochaska et al., 2006).

Overall, the pros composite scores ranked higher on the Likert-style scale than the cons composite scores. This contradicts the TTM, which theorizes that in the Precontemplation stage the pros outweigh the cons and in the Contemplation stage pros and cons are equally weighted (Glanz et al., 2015). In other words, based on the TTM placement in the lower two levels of readiness, respondents would be expected to rate cons (increased workload, decreased instructional time, planning) higher than pros (student health, health of students as adults, and increased student knowledge). This outcome could be reflective of the uniqueness of the educational process because frequently students, not only teachers or administrators, are the ones directly affected by the gains of the behavior change to deliver EHE. Perhaps even teachers and administrators in these lowest levels of readiness place high value in student outcomes.

Respondents indicated that they were only *Somewhat Confident* and *Moderately Confident* in their ability to successfully deliver EHE. This is consistent with the TTM premise that the readiness stage is positively correlated with self-efficacy. These results also reinforce current research findings that elementary teacher self-efficacy in health education is predictive of their intent to teach health, time spent on health instruction, and ultimately the establishment of

healthy behavior patterns in students (Fahlman et al., 2013).

Findings in the Beliefs Section concur with current studies that highlight a lack of instructional and planning time as two of the biggest barriers to EHE (Lohrmann, 2011; Thackeray, Neiger, Bartle, Hill, & Barnes, 2002; Wiley, 2002). This lack of time in combination with limited accountability and perceived responsibility create a significant barrier for EHE in this school district.

The Practices results are consistent with current literature indicating that teachers do not have access to adequate EHE materials, professional development, and resources (Rooney, et al., 2015). The lack of EHE lesson plan submission and the omission of health listed as a separate subject on report cards is related accountability. If teachers are not required by administrators to turn in EHE lesson plans or grades, then the district is limited in ensuring the delivery of EHE. Given the importance of health professional development, the low number of respondents that had participated in health education training during the last year is troubling.

RECOMMENDATIONS

The current study aimed to contribute to the severely limited research in addressing the integration of TTM theory, change processes of schools, and readiness for EHE. The research was important because of its implications for improving health education delivery through policy and practice. Results from this study allow for the staging of readiness for EHE in school districts through the application of the TTM. Stage-matched interventions may have a more sizeable impact than generic programs that are frequently aimed at the action phase of the TTM (Li, Ho, Sit, & He, 2014; DiClemente, 2018). School district staging for EHE effectively may be used to develop future intervention efforts to impact professional practice.

School district intervention recommendations

To facilitate increased readiness, the school district should gather and disseminate information about how EHE and its delivery are defined, who is responsible, and how it is related to student achievement and health outcomes. Interventions using this process may include feedback from the current study, a review of the *Alabama Course of Study* (2009), sharing relevant literature and research, and professional development provided by health education experts and/or health professionals geared toward EHE awareness. Perhaps participation in EHE training would rise if the school district offered EHE professional development in-house. Alternatively, the school district should provide support to enable teachers to attend conferences for professional development in health education.

School district beliefs about responsibility, accountability, instructional time, and planning time are related to EHE readiness levels. School district supportive practices that may facilitate readiness level progression include providing EHE teachers manuals, textbooks, curriculum materials, and professional development. Funding by the State Department of Education and/or the school district for EHE resources and training is a must. Without these resources, delivery of EHE is unlikely to be successful or sustained. Examples of school district EHE accountability practices include requiring the submission of health lesson plans and listing health as a separate subject on report cards. The school district and/or State Department should not only require accountability through guidelines or policy in these areas of EHE but also stipulate evidence of compliance.

Recommendations for future research

The study intended to determine if Alabama guidelines in EHE were being met and results may be relevant to future research regarding district or state EHE policy, policy accountability, instructional practices, professional development, professional preparation, standardized testing, and certification. Future research could assess EHE readiness in other school districts in Alabama. The EHE-DAT could also be applied on a broader scale; for example, with state professional organizations. Beyond Alabama, the EHE-DAT could be customized and applied to school districts in states that also require EHE.

REFERENCES

Alabama Course of Study:Health Education. (2009). Montgomery, AL:Alabama State Department of Education.

Allums-Featherston, K., Candelaria, N., Anderson, K., Bai, Y., & Saint-Maurice, P. F. (2015). NFL PLAY360 FITNESSPROGRAM®: Closing the gap between good and great teachers. *Research Quarterly for Exercise and Sport, Supplement, 86*(S2), A115.

Bandura, A. (1977). Self-efficacy:Toward a unifying theory of behavior change. *Psychological Review, 84*(2), 191-215.

Belcastro, B. A., & Ramsaroop-Hansen, H. (2017). Addressing the antimony between health education and health literacy in advancing personal health and public health outcomes. *Journal of School Health, 87*(12), 968-974.

Birch, D. A. (2017). Improving schools, improving health education, improving public health:The role of SOPHE members. *Health, Education, and Behavior, 44*(6), 839-844.

Clark, P. G. (2013). Toward a Transtheoretical Model of interprofessional education:Stages, processes, and forces supporting institutional change. *Journal of Interprofessional Care, 27*, 43-49.

Clark, J. K., Brey, R. A., & Clark, S. E. (2013). Development of a pre-service teachers' self efficacy instrument regarding teacher health education standards. *Journal of School Health, 83*(10), 718-727.

Clark, J. K., Clark, S. E., & Brey, R. A. (2014). Improving pre-service elementary teachers' self reported efficacy for using the professional teacher standards in health education. *Journal of School Health, 84*(7), 459-465.

Cook, H. D., & Kohl, H. W. (2013). *Educating the student body:Taking physical activity and physical education to school.* Washington, DC:National Academies Press.

Cottrell, R. R. & McKenzie, J. F. (2011). *Health promotion and education research methods: Using the five-chapter thesis/dissertation model*

(2nd ed.). Sudbury, MA:Jones & Bartlett Publishers.

Centers for Disease Control and Prevention. (2018). *Health and academics.* Retrieved from http://www.cdc.gov/healthyyouth/health_and_academics/index.htm Accessed 08-08-2018.

Centers for Disease Control and Prevention. (2011). *School health programs: Improving the health of our nation's youth* [PDF document]. Retrieved from http://www.cdc.gov/chronicdisease/resources/publications/aag/dash.htm.Accessed 08-08-2018.

DiClemente, C.C. (2018). *Addiction and change:How addictions develop and addicted people recover* (2nd ed.). New York City, NY:Guiliford Press.

Fahlman, M. M., Hall, H. L., & Gutuskey, L. (2013). The impact of a health methods class on pre-service teachers' self-efficacy and intent to teach health. *American Journal of Health Education, 44*(6), 316-323.

Glanz, K., Lewis, F.M., & Viswanath, K. (Eds.). (2015). *Health behavior:Theory, research, and practice* (5th ed.). San Francisco, CA:Jossey Bass Publishers.

Gregory, J. (2015). Active ways to teach HEALTH CONCEPTS in the elementary setting. *Strategies, 28*(6), 45-47.

Hayden, J. (2014). *Introduction to Health Behavior Theory* (2nd ed.). Burlington, MA:Jones and Bartlett Learning.

Healthy People 2020. (2018). Retrieved from http://www.healthypeople.gov/2020/topicsobjectives/topic/early-and-middlechildhood/objectives.

Horwath, C. C., Schembre, S. M., Motl, R. W., Dishman, R. K., & Nigg, C. R. (2013). Does the transtheoretical model of behavior change provide a useful basis for interventions to promote fruit and vegetable consumption? *American Journal of Health Promotion, 27(6), 351-357.*

Kann, L., Telljohan, S. K., & Wooley, S. F. (2007). Health education:Results from the school health policies and programs study 2006. *Journal of School Health, 77*(8), 408-434.

Levesque, D. A., Prochaska, J. M., & Prochaska, J. O. (1999). Stages of change and integrated service delivery. *Consulting Psychology Journal: Practice and Research, 51*(4), 226-241.

Levesque, D. A., Prochaska, J. M., Prochaska, J. O., Dewart, S. R., Hamby, L. S., & Weeks, W. B. (2001). Organizational stages and processes of change for continuous quality improvement in health care. *Consulting Psychology Journal: Practice and Research, 53*(3), 139-153.

Zhu, L. X., Ho, S. C., Sit., W. H., & He., H. G. (2014). The effects of a transtheoretical model based exercise stage-matched intervention on exercise behavior in patients with coronary heart disease: A randomized control trial. *Patient Education and Counseling, 95,* 384-392.

Lohrmann, D. K. (2011). Thinking of a change. *American Journal of Health Education, 42*(5), 258-269.

Michael, S. L., Merlo, C. L., Basch, C. E., Wentzel, K. R., & Wechsler (2015). Critical connections: Health and academics. *Journal of School Health, 85*(11), 740-758.

National Center for Education Statistics. (2018). Fast Facts:Educational Institutions. Retrieved from https://nces.ed.gov/fastfacts/display.asp?id =84. Accessed 08.08.2018.

Nobling, B. D., & Lyde, A. R. (2015). From the school health education study to the National Health Education Standards:Concepts endure. *Journal of School Health, 85*(5), 309-317.

O'Neill, J. M., Clark, J. K., & Jones, J. A. (2016). Promoting fitness and safety in elementary students: A randomized control study of the Michigan Model for Health. *Journal of School Health, 86*(7), 516-626.

Prochaska, J. M., Mauriello, L. M., Sherman, K. J., Harlow, L., Silver, B. & Trubatch, J. (2006). Assessing readiness for advancing women scientists using the transtheoretical model. *Sex Roles, 54*(11/12), 869-880.

Prochaska, J. O., & DiClemente, C. C. (1982). Transtheoretical therapy: Toward a more integrative model of change. *Psychotherapy: Theory Research and Practice*, *19*(3), 276–288.

Prochaska, J. O., & DiClemente, C. C. (1983). Stages and processes of self-change of smoking: Toward an integrative model of change. *Journal of Consulting and Clinical Psychology, 51*(3), 390–395.

Prochaska, J. O. & Velicer, W. F. (1997). The transtheoretical model of health behavior change. *American Journal of Health Promotion, 12*(1), 38-48.

Raney, M., Henriksen, A., & Minton, J. (2017). Impact of short duration health & science energizers in the elementary school classroom. *Cogent Education, 4*(1), 1-11.

Rajan, S., Roberts., K. J., Guerra, L., Pirsch, M., & Morrell, E. (2017). Integrating health education in core curriculum classrooms: Successes, challenges, and implications for urban middle schools. *Journal of School Health, 87*(12), 949-957.

Romain, A. J., Horwath, C., & Bernard, P. (2018). Prediction of physical activity level using processes of change from the Transtheoretical Model: Experiential, behavioral, or an interaction effect? *American Journal of Health Promotion*, *32*(1) 16-23.

Rooney, L. E., Videto, D. M., & Birch, D. A. (2015). Using the whole school, whole community, whole child model:Implications for practice. *Journal of School Health, 85*(11), 817-823.

Salazar, L., F., Crosby, R. A., & DiClemente, R. J. (2015). *Research methods in health promotion* (2nd ed.). San Francisco, CA:Jossey Bass.

Sams, L. S., Rozier, R. G., Wilder, R. S., & Quinonez, R. B. (2013). Adoption and implementation of policies to support preventive dentistry initiatives for physicians: A national survey of Medicaid programs. *American Journal of Public Health*, *103*(8), e83-e90.

Sofo, S., Thompson, E., Freshwater, A., & Krebs, K. (2014). Prospective classroom teachers' intentions to integrate health education across the curriculum. *International Journal of Arts and Sciences, 7*(2), 233-240.

Thackeray, R., Neiger, B. L., Bartle, H., Hill, S.C., & Barnes, M. (2002). Elementary school teachers' perspectives on health instruction: Implications for health education. *American Journal of Health Education, 33*(2), 77-82.

Toth, S. E., O'Neal, M. R., & Evans, R. R. (2018). Assessing elementary health education: Instrument development for school district readiness and delivery. *American Journal of Health Education, 49*(5), 271-279. doi:10.1080/19325037.2018.1486759.

Vamos, S., & Zhou, M. (2007). Educator preparedness to teach health education in British Columbia. *American Journal of Health Education, 38*(5), 284-292.

Velasquez, M. M., Crouch, C., Stephens, N. S., & DiClemente, C. C. (2016). *Group treatment for substance abuse: A stages-of-change therapy manual* (2nd ed.). New York City, NY:Guilford Press.

World Health Organization [WHO]. (2018). *Health education.* Retrieved from http://www.who.int/topics/health_education/en/

Whysall, Z. J., Haslam, C., & Haslam, R. (2007). Developing the stage of change approach for the reduction of work-related musculoskeletal disorders. *Journal of Health Psychology, 12*(1), 184-197.

Wiley, D. (2002). Elementary school teachers' perspectives on health instruction: A commentary. *American Journal of Health Education, 33*(2), 83-87.

Table 1: Percentages of Elementary Health Education Current Delivery Items

Item	% Not At All	% A Little	% Moderately	% Quite a Bit	% Completely
60 Minutes Weekly	36.6%	30.4%	20.5%	4.3%	8.1%
Separate from Physical Education	19.3%	51.6%	21.7%	5.0%	2.5%
Provided by Certified Teacher	17.4%	37.3%	18.0%	6.2%	21.1%

Table 2: Frequency for Readiness Item Response and Stage of Change

Response Choice	TTM Stage	f	%
NO, and I do not intend to in the next 6 months.	Precontemplation	83	51.6%
NO, but I intend to in the next 6 months.	Contemplation	21	13.0%
NO, but I intend to in the next 30 days.	Preparation	8	5.0%
YES, I have been, but for less than 6 months.	Action	17	10.6%
YES, I have been for more than 6 months.	Maintenance	32	19.9%

Table 3: Pros and Cons Items and Percentages of Each Response Choice

Item	% Not At All Important	% Somewhat Important	% Moderately Important	% Very Important	% Extremely Important
Students will be healthier as adults. (pro)	1.2%	6.2%	16.1%	44.1%	32.3%
Students will be less likely to get sick. (pro)	1.9%	15.5%	23.0%	36.0%	23.6%
Students will be more knowledgeable about health. (pro)	.6%	8.1%	25.5%	42.2%	23.6%
My workload will increase. (con)	18.6%	28.6%	19.9%	16.8%	16.1%
It will take away instructional time from other subjects. (con)	10.6%	21.1%	22.5%	22.4%	20.5%
It will take a lot of planning. (con)	10.6%	30.4%	28.0%	21.7%	9.3%

Table 4: Self-Efficacy Items and Percentages of Each Response Choice

Item	% Not At All Confident	% Somewhat Confident	% Moderately Confident	% Very Confident	% Extremely Confident
There was limited instructional time.	23.6%	28.6%	31.1%	10.6%	6.2%
There was no health teacher's manual provided.	28.6%	32.3%	24.2%	6.2%	8.7%
There were no health curriculum materials provided.	28.0%	31.1%	28.6%	4.3%	8.1%
You had no professional preparation in health education.	23.6%	32.3%	30.4%	5.0%	8.7%
You had no training in the last year in health education.	25.5%	31.1%	29.2%	5.6%	8.7%
Your workload was heavy.	31.1%	30.4%	20.5%	5.0%	13.0%

Table 5: Beliefs Items and Percentages of Each Response Choice

Item	% Strongly Disagree	% Somewhat Disagree	% Neither Agree or Disagree	% Somewhat Agree	% Strongly Agree
It is my responsibility to ensure the delivery of EHE.	16.1%	23.6%	20.5%	30.4%	9.3%
I am accountable for the delivery of EHE.	16.8%	22.4%	24.8%	29.2%	6.8%
There is adequate instructional time in the elementary grades.	31.1%	29.2%	15.5%	19.9%	4.3%
There is adequate planning time for elementary teachers.	29.2%	26.7%	17.4%	23.6%	3.1%

Table 6: Frequency of Elementary Health Education Practices Items

Item	Response Choice			
	Yes		No	
	f	%	*f*	%
Provides a teacher's manual for Health in the elementary grades.	29	18.6%	132	82.0%
Provides Health curriculum materials in the elementary grades.	38	23.6%	123	76.4%
Provides Health textbooks for elementary students.	12	7.5%	149	92.5%
Requires lesson plans to be submitted for Health in the elementary grades.	10	6.2%	151	93.8%
Lists Health as a separate subject on elementary report cards.	7	4.3%	154	95.7%
Offers professional development in Health.	19	11.8%	142	88.2%