Reported Self-Efficacy of Health Educators During COVID-19

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Abstract
The COVID-19 pandemic forced many public health professionals to take on new roles such as online teaching, communicating, and managing; serving on the frontlines of patient care; and serving as health education resource personnel. Researchers of this study posed the question: How has the pandemic impacted those who serve to help others? Seven aspects of self-efficacy in professional practice were examined via an online survey sent to health educators. Respondents were extremely confident communicating with their colleagues and supervisors (60%) and with students (51%), but only 19% were extremely confident in maintaining a work-life balance and 22% in managing personal and professional stress. Respondents reported being confident in all areas of responsibilities, overall, but they were most confident in Area 8 (ethics and professionalism) and least confident in Area 1 (assessing the needs and capacity of a community) since COVID-19. Findings imply a need for more professional development opportunities to foster professional and personal self-efficacy and to improve self-efficacy in needs assessment, leadership, and advocacy. Findings also show a need for workplace or state-based interventions to support resiliency and self-care among professionals who work to serve others.

Keywords
COVID-19, health educators, self-efficacy, pandemic, professional practice

Background
Health educators are trained to be professional chameleons who have the primary knowledge and skills in a variety of roles and settings. The most current Health Education Specialist Practice Analysis II 2020 (HESPA II) delineates 8 areas of responsibility (AOR), 35 competencies, and 193 sub-competencies with 59 identified as entry level and 20 identified as advanced level. This new framework includes advocacy as a standalone AOR and adds new areas in leadership and management, and ethics and professionalism.1 Competencies span the gamut from identifying priority populations, planning, implementing, and evaluating public health interventions, to activities that support designing, conducting and evaluating original research, evaluating communication strategies, managing fiduciary and material resources, and promoting the health education profession.

These competencies provide the foundational knowledge and professional standards necessary to support health educators’ abilities to respond to a variety of dynamic public health concerns.1,2 Public health issues which health educators are engaged include the decades-long opioid and obesity epidemics, as well as more rapidly proliferating events such as bioterrorism events and infectious diseases, such as H1N1, Zika, Ebola, and most recently COVID-19.3-9 While health educators are focused on promoting healthy communities, this is also directly linked to the resilience of a community in the face of public health crises.10 The Centers for Disease Control and Prevention’s Public Health Emergency Preparedness and Response (PHEP) capabilities provide national preparedness standards to support public health emergency planning at state and local levels. While these capabilities provide a framework for public health professionals to plan for public health emergencies, they also specify best practices for public health emergency response.6 These tools in addition to training in crisis and emergency risk communication (CERC), emergency responder health monitoring and surveillance (ERHMS), and public health

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Received 8 August 2022; revised 10 October 2022; revised manuscript accepted 28 October 2022

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In March of 2020, COVID-19 became an urgent focus for health educators who were tasked with executing work shifts to emergency response roles and rapidly adjusting to new work environments. Health educators promptly moved from pre-COVID-19 duties to prevent acute and chronic illnesses to supporting testing and data reporting operations. Due to work and school closings to prevent the spread of COVID-19, many health educators began reporting to other locations or working from home where the line between work and home life became blurred. As an additional result of these work shifts, health educators began to rely heavily on technology to communicate with community members, patients, students, and colleagues alike. This is a particularly exceptional feat considering the primary tools used by health educators are directly related to effective communication. National Commission for Health Education Credentialing, showcased how certified health education specialists (CHES) pivoted to respond specifically to COVID-19 while balancing daily responsibilities. One such health educator adapted her knowledge and skills in infectious disease and emergency response best practices to provide drive-thru testing for COVID-19. At the same time, she continued her daily responsibilities as a site manager for a free clinic dedicated to testing for and prevention of sexually transmitted infections (STIs) in underserved communities. Moreover, other researchers examined the initial change in work shifts of health educators during the COVID-19 pandemic and found that 80% of health educators were required to make adjustments to support the COVID-19 response. Additionally, of those who were required to make work shifts, 85% were also tasked with continuing daily duties while supporting the COVID-19 response.

Existing research continues to reveal the nuanced implications COVID-19 has had on the communities that health educators serve across the Globe. COVID-19 has caused a substantial loss of life and economic disruption worldwide, which have both proven to be catalysts for the extreme mental and social health effects observed throughout the pandemic. Like with most public health emergencies, communities and countries who deal with humanitarian crises on a regular basis are especially vulnerable to COVID-19 and its varying short and long-term effects. In the U.S., many underserved populations who rely on interventions, education, and support from health educators have been left in a precarious position as a result of the aforementioned work shifts.

While research widely reports the myriad effects COVID-19 has had on communities, little research about how the pandemic has impacted those who work to serve those communities is available. Additionally, research related to perceived self-efficacy of health educators while completing work shifts is lacking. This study explores health educators’ reported self-efficacy in professional practice and application of HESPA II competencies and use of technology while accomplishing work shifts as a result of the COVID-19 pandemic.

Purpose

A gap in the research exists in how these transitions have impacted health educators’ self-efficacy to perform their designated work responsibilities as well as manage both their professional and personal lives. In other words, how has the pandemic impacted those who work to serve those communities? This study explores health educators’ reported self-efficacy in professional practice, competencies as defined by HESPA II, and changes in the use of technology during the COVID-19 pandemic.

Conceptual Framework

Investigators used the concept of self-efficacy to frame the development of the survey instrument. Self-efficacy is a subset of Bandura’s Social Cognitive Theory and is defined as a person’s confidence they can perform a behavior. Seven aspects of self-efficacy in teaching practice among health educators as well as self-efficacy in demonstrating the 8 areas of responsibility of a health education specialist were measured. These included the ability to engage students, ability to utilize instructional strategies to facilitate learning, ability to maintain regular communication with colleagues and supervisors, ability to adjust teaching practice to meet student’s access to technology, ability to manage personal and professional stress, and ability to maintain a work-life balance.

Methods

Overall Study Design

Descriptive and correlational research was used for this study. The purpose of correlational research is to “investigate the extent to which variations in one factor correspond with variations in one or more other factors based on correlation coefficients” (p. 53). Further, descriptive research functions to “describe systematically the facts and characteristics of a given population or area of interest, factually and accurately” (p. 50). Correlation research was appropriate for this study as it measured perceived levels of self-efficacy in professional practice among various demographics (eg, gender, work setting, race/ethnicity) of public health professionals.

Participants

The investigators of this study wanted to explore the impact of the COVID-19 pandemic on a finite group of certified
health educators based on selected skills and training. As a result, one professional association who met criteria for this study was used, the National Commission for Health Education Credentialing (NCHEC). NCHEC is the only credentialing organization for health educators and entry-level public health professionals. Membership in NCHEC is contingent upon passing the Certified Health Education Specialist (CHES) exam or the Master Certified Health Education Specialist (MCHES) exam. Therefore, enumeration (ie, a census) was used for data collection, and included all members of the population during survey administration. A population, as defined in research methods, consists of all members or entities of a particular group under study. In this study, the group was certified health education specialists. The total number of NCHEC members at the time of the survey is an estimate and based on the list of emails given to the co-investigators from the organization. There was a total of 23,560 email addresses on this list to which the survey was distributed.

Instrumentation

A survey instrument was developed to explore the constructs of the self-efficacy as they are defined by Bandura, as well as patterns of technology use before and during the COVID-19 pandemic. An online survey instrument was developed on Qualtrics. Participation was voluntary and anonymous. There were no items on the survey instrument that asked for any identifying information (eg, name, address, SSN, etc.).

The survey included 4 scales (a total of 47 items), 9 demographic items, 1 ordinal item directed at only educators about the percentage of time they spent teaching online prior to the pandemic, and 2 open-ended items where participants had the opportunity to describe what aspects of their professional practice changed the most and least as a result of the COVID-19 pandemic. The 4 scales included one scale of 11 items that addressed the frequency of use of the most common technological educational platforms before the pandemic and another scale of 11 items that addressed the frequency of use of these same platforms during the pandemic. A third scale of 7 items measured participants’ perceived self-efficacy in working with students since the start of the pandemic. Survey branching was used to guide participants who reported they worked primarily in teaching settings to items that focused on working with students. The fourth scale of 18 items measured participants’ perceived self-efficacy in performing NCHEC-defined competencies since the start of the COVID-19 pandemic. All respondents, regardless of reported work setting, completed this fourth scale. The survey was sent to 3 reviewers for feedback using a retain, revise, delete form. Most of the comments were to retain all survey items. Minor grammatical revisions were made based on reviewer feedback. No items were recommended to be deleted.

The survey was piloted to a comparable group that consisted of faculty in the department to which the co-investigators belong and psychometrics were performed on the 4 scales that measured technology use and perceived self-efficacy. All of the 4 scales were found to be reliable with Cronbach alphas meeting the minimum threshold of .70 for internal consistency.

After receiving permission from NCHEC executive staff to survey their entire membership list and approval by the Salisbury University Institutional Review Board (protocol #35), an email message was composed with the survey link attached and distributed to the entire NCHEC membership on July 22, 2020. The survey link remained open for 6 weeks or until a viable response rate of 30% and data saturation of the qualitative survey items were reached. A reminder email with the survey link was sent on August 10, 2020. Data collection ended on September 16, 2020. Of the 494 surveys that were started on July 22, 2020, 442 were completed, giving an 88% completion rate. Of the additional 212 surveys that were started with the August 10, 2020 reminder, 188 were completed, totaling an 85% completion rate.

Data analysis. Descriptive statistics were used to describe the population. McNemar’s test was used to test the null hypotheses that the probability of changing technology after COVID-19 is equal to the probability of changing technology prior to the COVID-19 pandemic. Data were paired via matching to control for confounding factors. Data were analyzed using SPSS version 27. Significance was measured at the $\alpha = .05$ level.

Data from the 2 open-ended responses were coded for emerging themes. A report of the responses was run and each of the 3 co-investigators first analyzed the responses individually then came together to discuss their respective findings and establish inter-rater reliability. Inter-rater reliability was high (96%) among the 3 co-investigators. Data were first coded based on the professional setting implied in the responses: General (G) for general professional setting that could apply to any health educator, teaching (T) for teaching-specific challenges unique to health educators whose primary professional role is instruction, and non-teaching (N) for challenges unique to community/public health educators whose role is not primarily teaching. Investigators identified key terms that are specific for teaching (eg, students, instruction, teaching) and community/public health practice (eg, clients, patients, target population). If a response did not include those key terms, they were coded as G for general professional setting. Once data were coded for setting, data were analyzed for the emergence of themes.

Results

Participant Characteristics

Overall, 639 individuals responded to the survey. However, 31 records were deleted because respondents only completed the consent statement. The final analysis file consisted of 608
The age of participants ranged from 22 to 85 years with a mean age of 39. Overwhelmingly, 73% of the sample was White, followed by African Americans (17%). 91% of the respondents identified as female. The ratio of female: male respondents was expected by the co-investigators because the health education discipline is female-dominated. 42% of the respondents reside in the South. 88% of the survey respondents were CHES/MCHES certified. The vast majority of respondents held master’s degrees or higher. The majority of respondents reported working in the following settings: health care (20%) college/university (19%), local government agency (17%), and community (12%). 55% of the respondents stated that they were considered essential employees. A summary of participant characteristics is presented in Table 1.
50% (N=51) of participants who reported working in a primarily teaching setting reported that none of their teaching was done online prior to COVID-19. Furthermore, teaching technologies prior to COVID-19 varied with the most commonly used teaching technology being Canvas/Blackboard, followed by Zoom. While Canvas/Blackboard and Zoom continued to be the primary technology used for teaching since COVID-19, fewer people reported having never used these technologies. Results of McNemar’s test revealed that there was a significant tendency for faculty to change their use of Zoom since COVID-19 ($P = .000$). The use of interactive technologies, such as Kahoot and Poll Everywhere saw an increase in never being used since COVID-19.

**Table 2.** Self-Efficacy in Professional Practice Abilities Since COVID-19.

| Statement (Since COVID-19)                                                                 | Extremely confident (%) | Minimally confident (%) | Moderately confident (%) | Not confident at all (%) |
|------------------------------------------------------------------------------------------|-------------------------|-------------------------|--------------------------|-------------------------|
| a. Confidence in ability to engage students with online learning                        | 33                      | 15                      | 49                       | 3                       |
| b. Confidence in ability to utilize instructional strategies to facilitate student learning | 32                      | 18                      | 52                       | 3                       |
| c. Confidence in ability to maintain regular communication with students                 | 51                      | 8                       | 38                       | 3                       |
| d. Confidence in ability to maintain regular communication with colleagues and supervisors | 60                      | 3                       | 37                       | -                       |
| e. Confidence in ability to adjust teaching practice to meet student’s access to technology | 36                      | 21                      | 43                       | 3                       |
| f. Confidence in ability to manage personal and professional stress                      | 22                      | 32                      | 39                       | 7                       |
| g. Confidence in ability to maintain a work-life balance                                  | 19                      | 29                      | 35                       | 17                      |

**Transition to Online Technology**

The study examined 7 aspects of self-efficacy in teaching practice among health educators. These included the ability to engage students, ability to utilize instructional strategies to facilitate learning, ability to maintain regular communication with students, ability to maintain regular communication with colleagues and supervisors, ability to adjust teaching practice to meet student’s access to technology, ability to manage personal and professional stress, and ability to maintain a work-life balance. Respondent comments included “virtual platforms make companies feel that you are always available,” and “worked much harder! Parents felt like we should be available constantly: nights, weekends, early morning!.” Similarly, only 22% stated that they were extremely confident in their ability to manage personal and professional stress since COVID-19. Table 2 presents a summary of responses for each statement concerning confidence in professional practice abilities.

**Self-Efficacy in 8 Areas of Responsibilities Since COVID-19**

The study also examined the self-efficacy of respondents since COVID-19 in the 8 areas of responsibilities for health education specialists. Self-efficacy was defined as one’s confidence (extremely confident, moderately confident, minimally confident, not at all confident) in being able to perform the identified competency/sub-competency. Although, respondents reported being confident in all areas of responsibilities, overall, they were more confident in Area 8 and least confident in Area 1 since COVID-19. Table 3 summarizes responses for confidence in the CHES areas of competencies since COVID-19.

**Most and Least Significant Changes to Professional Practice Since COVID-19**

The last 2 items on the survey asked participants “What was the most significant change to practice that has occurred as a result of COVID-19?” and “What has been the least significant change to practice that has occurred as a result of COVID-19?” There were 433 viable responses about the most significant change to practice. A total of 62.6% of responses were coded G for general professional settings, 26.1% were coded N for non-teaching settings, and 8.6% were coded T for teaching settings. The substantial theme that emerged related to the switch to remote/online work. A total of 54% of participants mentioned this change as the
most significant to their professional practice since the beginning of the pandemic. Participants voiced frustrations connecting with colleagues in comments such as, “the inability to meet face to face which supports a more connect relationship” and “loss of ‘hallway meetings’ where information is collectively spread among staff.” Others mentioned the struggles reaching their target community remotely, “connecting virtual with the low-income population I work with” and “assisting people virtually to access social services assistance.” Teachers’ responses highlighted challenges connecting with students, “not having nonverbal interaction with my students” and “relying on one method of communication to engage the students.”

Five additional themes emerged and included change in job duties and increased workload (12.2%), decrease access and health services offered to their target population (10.2%), increased stress/decreased work-life balance (3.0%), loss of job (2.3%), and concerns about political influence (2.1%). One teacher commented how much time they “spend advising, comforting, and supporting students [sic] emotional health has increased dramatically.” One community health educator spoke to how their “day to day duties have changed, no longer work in the field to attend community collaborative meetings and no longer doing resource visits to organizations and agencies.” Comments about the resulting lack of services and access to their target population included statements such as, “not seeing patients for 4 months,” “unknown ways to reach out to community,” and “reduction in resources related to new budget constraints.” Some general comments about the increased

| CHES areas of responsibilities | Extremely confident (%) | Minimally confident (%) | Moderately confident (%) | Not confident at all (%) |
|-------------------------------|-------------------------|-------------------------|--------------------------|-------------------------|
| Area 1: Assessment of needs and capacity | | | | |
| Confidence in their ability to recruit and engage community members in needs assessment since COVID-19 | 16 | 27 | 48 | 10 |
| Confidence in ability to collect and analyze needs assessment data. | 22 | 24 | 48 | 5 |
| Area 2: Planning | | | | |
| Confidence in ability to engage stakeholders to plan programs | 19 | 24 | 49 | 8 |
| Confidence in ability to develop materials for implementation evaluation | 29 | 14 | 51 | 6 |
| Area 3: Implementation | | | | |
| Confidence in ability to deliver health education and promotion interventions | 33 | 23 | 38 | 7 |
| Confidence in ability to monitor implementation | 27 | 24 | 42 | 7 |
| Area 4: Evaluation and research | | | | |
| Confidence in ability to manage the collection and analysis of evaluation and/or research data | 26 | 22 | 45 | 7 |
| Confidence in ability to disseminate findings to priority populations | 26 | 26 | 41 | 7 |
| Area 5: Advocacy | | | | |
| Confidence in ability to engage coalitions and stakeholders in addressing the health issue and planning advocacy efforts | 20 | 30 | 42 | 9 |
| Confidence in ability to engage in advocacy | 26 | 27 | 39 | 7 |
| Area 6: Communication | | | | |
| Confidence in ability to deliver messages effectively using the identified media and strategies | 28 | 23 | 45 | 4 |
| Confidence in ability to modify existing methods of communicating to priority populations | 26 | 24 | 46 | 4 |
| Area 7: Leadership and management | | | | |
| Confidence in ability to coordinate relationships with partners and stakeholders | 28 | 24 | 43 | 6 |
| Confidence in ability to manage human resources | 20 | 31 | 42 | 8 |
| Area 8: Ethics and professionalism | | | | |
| Confidence in ability to practice in accordance with established ethical principles | 60 | 8 | 30 | 2 |
| Confidence in ability to serve as an authoritative resource on health education and promotion | 45 | 14 | 40 | 2 |
stress and limited work-life balance included “mounting stress has become a normal activity of the work day, and dealing with the extreme adrenaline rush of an 8-9 hour [sic] work day, and then transitioning to your normal home life right after is very taxing, mentally” and “increased stress experienced by my staff due to utilization of alternative methods to communicate with clients.” Unfortunately, some participants disclosed job termination, “my position was terminated in a tribal health department due to funding because of the effects of COVID-19 on casinos. I was a Public Health Educator/Accreditation Coordinator” and “job eliminated. Community College closed.” Finally, some participants remarked on the political influence and general public response during the summer 2020 era of the pandemic, “trusting issues the public have with public health data due to federal leadership discrediting its own ‘messengers’” and “laypersons thinking they are experts and know more about public health & how to do job of public health professional.”

There were 296 viable responses regarding the least significant change to practice. A total of 80.7% responses were coded G for general professional settings, 11.1% for non-teaching settings, and 8.1% for teaching settings. Interestingly, the leading theme that emerged was online/remote work. Over a quarter (25.7%) of responses stated this was the least significant change to practice as a result of COVID-19. Participants stated, “I have a few online courses that have almost no change,” “working from home was written into the grant, so that has been excellent,” and “telephonic health coaching was in place prior to COVID.”

The other theme of worth was the lack of changing workload. A total of 7.1% of responses implied there was not a significant change to workload as a result of the pandemic with statements such as, “no change in hours worked” and “I’m still working roughly the same hours even though my responsibilities have changed.”

Discussion

Health educators had highest levels of reported self-efficacy in maintaining regular communication with colleagues and supervisors and, for those in a teaching role, communicating with students since the start of the COVID-19 pandemic. These high levels of self-efficacy may be due to the fact that half of respondents who reported working in a primarily teaching capacity had some experience teaching online prior to the pandemic and that 54% of respondents noted the switch to online/remote work as the least significant impact of the pandemic on their professional practice. Therefore, it can be inferred that health educators, in general, are well-versed with using technology to communicate with their constituents. However, reported self-efficacy was much lower when communication was in the context of identifying media and strategies and modifying existing methods of communication to priority populations. Open-ended responses alluded to the frustrations of not having best practices to refer to when navigating with their target populations during the early part of the pandemic. These findings imply that health educators are more confident in communicating regularly with those whom they work the most closely, but feel less confident in determining the best practices to reach target audiences during an unprecedented time.

The most telling findings were the low levels of self-efficacy in maintaining a work-life balance and managing personal and professional stress since COVID-19. This could be due to the transition to telework and working from home amongst domestic distractions. In their open-ended response to the most significant change due to the pandemic, several participants mentioned working from home with toddlers and spouses. In a related study looking at health educators’ transitioning roles due to COVID-19, 39% of health educators reported being responsible for dependents at home during the pandemic and 25% of those health educators reported they were helping a school-aged child with distance learning while juggling work responsibilities.13 These dual responsibilities could be the cause for this lack of self-efficacy in juggling a work-life balance, and making it difficult to manage pressures when working in an environment when personal and professional stress collide.

In terms of areas of responsibility, levels of self-efficacy were relatively low across the selected competencies included in the survey. The highest levels of self-efficacy were associated with Area 8: Ethics and Professionalism, and the lowest levels of self-efficacy associated with Area 1: Assessment of Needs and Capacity, particularly with their ability to recruit and engage community members in needs assessment since COVID-19. Many open-ended responses about least significant changes imply that the core of health education mission, objectives, and purpose stayed consistent even though the target topic shifted to COVID-19. Therefore, health educators’ commitment to ethically and professionally serving their target populations did not waiver. One of the main themes among the responses regarding the most significant changes, however, was lack of access to their target population, which could have impacted participants’ reported self-efficacy in conducting needs assessments during this time in the pandemic.

Limitations

Investigators used a census of NCHEC members. While a census was appropriate to capture the finite population focused on in this study, it did not capture health educators who are not CHES/MCHES-certified. Future studies could use a random sampling technique to include more a cross-section of public health professionals. This study also only looked at responses from one point during the pandemic and
do not imply causality. Additional studies could further explore the lingering effects that pandemic has or has not had on professional practice of health educators.

Implications for Practice and Research

Findings from this study imply a need for a better support structure and professional development opportunities for health educators, not just during a global pandemic, but during all eras of their professional career. Worksites who employ health educators should offer employment assistance programs (EAP) that provide specialized services for those who work to serve others. States can implement programs to enhance health educator’s self-care and help them find a better work-life balance. The Maryland Department of Health, for example, along with the Behavioral Health Administration (BHA) and MedChi, the Maryland State Medical Society, jointly sponsor a webinar series targeting behavioral health and medical care workers with the goal to improve resiliency and self-care and to help combat the various stressors these professionals face.19

Public health professional associations, such as NCHEC, SOPHE, and APHA should offer needs assessment, leadership and management, and advocacy training for CHES/ MCHES credits at annual meetings or throughout the year as webinars. Findings from this study show the need for more professional development in these competencies, and this need is underscored with the HESPA II revised framework in which leadership and advocacy are now standalone areas of responsibility and best methods for reaching priority populations during needs assessments may have changed.

Universities and colleges should incentivize faculty who offer online courses to design their instruction based on existing quality standards, such as the Quality Matters framework. Faculty can work with their university instructional designers to develop their course based off of these best practices for quality online instruction.

The start of the COVID-19 pandemic demanded that quick decisions be made, even if these decisions were not based on adopting best practices or sound scientific methodology. The goal was to survive day-to-day. Coming into 2022, however, we are in a different place with vaccines, tests, and more knowledge available. There is opportunity for reflection. Now is the time to re-imagine things like educational formats, best uses of technology, and reaching priority populations, as well as the need for health educators to voice their needs as people who serve people. Health educators are innovators, and can spearhead transformations to professional practice, policy, and research based on lessons learned during such an unprecedented time in global history.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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