Critical Thinking Dispositions Among Undergraduate Students During Their Introductory Health Education Course

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Abstract

The present study was undertaken to measure critical thinking dispositions in students as they enter the health education program at Illinois State University (ISU). Health education undergraduate students at ISU were found to have shortcomings in critical thinking dispositions during a study from 2000-2003. Dispositions (e.g. truthseeking, open-mindedness, inquisitiveness) were measured by the California Critical Thinking Dispositions Inventory (CCTDI). Health education majors (n=96) were compared to students in other health science disciplines (n=187) and to health education minors (n=48). CCTDI scores did not differ between health education majors and other health sciences students but scores for majors were significantly higher than for health education minors. Specifically, health education majors scored significantly higher for inquisitiveness, cognitive maturity and total critical thinking disposition. The findings have significant implications for health education academic programs and the profession. Health education professionals commonly confront complex, ill-structured problems and their ability to effectively respond to these problems is largely dependent upon strong critical thinking dispositions. Focusing on the development of critical thinking dispositions in professional preparation programs, and further research on pedagogy effective in developing the dispositions, is needed.

Introduction

Teachers involved in the professional preparation of health educators are likely to recognize that students display a variety of emotional responses when presented with difficult questions to answer or problems to solve. A few students may eagerly jump at the chance to explore a new topic while many others hesitate, complain, or shrink from the challenge. Some students willingly acknowledge their lack of knowledge about a topic and ask questions in order to gain a better understanding while others remain silent or pretend they know more than they do. Some students may be willing to put in extra effort to produce work of clarity and depth while many others calculate how little they can do and still receive a personally acceptable grade. What is it that makes some students so characteristically different from others? A considerable body of literature supports the conclusion that critical thinking dispositions largely shape people's responses to the problems presented to them in their education and life (Baron, 1985; Ennis, 1987; Facione, 1998, 2000; McPeck, 1981; Paul, 1995; Perkins, Jay & Tishman, 1993; Ritchhart, 2002; Schrag, 1988; Siegel, 1999; Swartz, 2000).

Facione (2000) defined human dispositions as "...a person's consistent internal motivation to act toward, or to respond to, persons, events, or circumstances in habitual, and yet potentially malleable, ways" (p. 64). The California Critical Thinking Disposition Inventory (CCTDI) is used to measure seven distinct critical thinking dispositions and an overall disposition (Facione, Facione & Sanchez, 1994). The instrument has been used extensively in research on critical thinking dispositions (e.g. Bartlett & Cox, 2002; Bers, McGowan, & Rubin, 1996; Colucciello, 1997; Giancarlo & Facione, 2001; Rudd, Baker, & Hoover, 2000; Wilson, 2000). The seven critical thinking dispositions measured by the CCTDI include:

- Truthseeking: A courageous desire for the best knowledge, even if such knowledge fails to support or undermines one's preconceptions, beliefs or self interests.
- Openmindedness: Tolerance of divergent views, self-monitoring for possible bias.
- Inquisitiveness: Curious and eager to acquire knowledge and learn explanations even when the applications of the knowledge are not immediately apparent.
- Analyticity: Demanding the application of reason and evidence, alert to problematic situations, inclined to anticipate consequences.
- Systematicity: Valuing organization, focus and diligence to approach problems of all levels of complexity.
- Critical Thinking Self-Confidence: Trusting of one's own reasoning skills and seeing oneself as a good thinker.
- Cognitive Maturity: Prudence in making, suspending, or revising judgment, an awareness that multiple solutions can be acceptable, an appreciation of the need to reach closure even in the absence of complete knowledge (Facione, Facione, & Giancarlo, 2000).

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Critical thinking dispositions, therefore, represent the affective dimension of thinking and shape one's routine ways of thinking in response to life events, contexts, and circumstances. Facione's (2000) definition of human dispositions also implies that they are stable but can change over time given the right conditions. Siegel (1999) metaphorically compared critical thinking dispositions to a chemical that lies inert until acted upon by some other chemical or a change in environmental conditions. Only when acted upon does the chemical take on a new shape and composition. Taken together, these definitions from Facione and Siegel characterize critical thinking dispositions as a habitual feature of intellectual function that can be changed through purposeful action. Higher education offers an ideal environment wherein this purposeful action can take place. Critical thinking dispositions can strengthen during matriculation in college (Giancarlo & Facione, 2001). But for this to happen in a more focused and concerted way, an understanding of students' critical thinking dispositions is needed.

Literature on critical thinking indicates that strong dispositions are vital to the development of good thinking skills (Facione, 1998, Giancarlo & Facione, 2001; King & Kitchener, 1994; Paul & Elder, 2001). In essence, if thinking dispositions are weak, it is very unlikely that strong thinking skills will develop. Weak thinking dispositions displayed by students during their undergraduate studies imply a low trajectory for the utilization of thinking skills when these students enter the workforce (Paul & Elder, 2001). The implications of this appear significant for the profession. Placed into the context of health education practice, the competencies of analyzing, planning, implementing, and evaluating health education programs involve complex thinking skills, but none of these thinking skills are likely well developed or utilized if the health educator does not possess the inclination and desire to think carefully and thoroughly. Such inclination and desire is characteristic of strong critical thinking dispositions (Facione, 2000).

To date, no studies have been published regarding the status of critical thinking dispositions among students populating health education professional preparation programs. The profession may therefore benefit by building an understanding of these dispositions and engaging in a concerted effort to make their development an explicit focus of professional preparation – similar to what has happened in the nursing field over the last several years (Bers, McGowan, & Rubin, 1996; Coucciello, 1997; Facione, Facione, & Sanchez, 1994; Walsh & Hardy, 1999).

The present study was undertaken to measure critical thinking dispositions in students as they enter the health education program at Illinois State University (ISU). The program includes major and minor sequences in school and community health education with enrollment of approximately 125 majors and 75 minors. The school and community health education sequences are accredited/approved by the National Council for Accreditation of Teacher Education/American Association for Health Education and the Society for Public Health Education/American Association for Health Education Baccalaureate Program Approval Coommittee respectively.

Methods

The CCTDI is a 75-item instrument designed to measure a person's overall disposition toward critical thinking and seven specific dispositions (Facione, Facione, & Sanchez, 1994). Scores for each of the seven dispositions can range from 10 to 60. "A score of 30 or below indicates consistent opposition or weakness in relation to the given disposition" (Facione, Facione, & Sanchez, 1994, p. 347). Scores between 31 and 39 indicate neither strength nor weakness for the disposition (Giancarlo & Facione, 2001). Scores from 40 to 49 indicate "minimal endorsement of the disposition on average and scores above 50 indicate consistent endorsement and strength of the given disposition" (Facione, Facione, & Sanchez, 1994, p. 347). The scores for the seven dispositions are added to calculate the overall critical thinking disposition. For this combined score, a value of 350 is the target and indicates overall strength, while scores between 280 and 210 indicate weakness and below 210 indicates an overall negative disposition. Scores between 280 and 349 are considered neither strong nor weak (Facione, Facione & Giancarlo, 2000). Reported Cronbach's alpha internal reliabilities for the CCTDI seven disposition scales range from .71 to .80 and reported reliabilities for the entire instrument measuring overall critical thinking disposition range from .90 to .91 (Facione, Facione & Sanchez, 1994; Giancarlo & Facione, 2001).

Prior to beginning data collection, approval for the research was obtained from the university's Institutional Review Board. From the Spring semester of 2000 through the Fall semester of 2003, the CCTDI was administered to all students enrolled in the introductory health education course. The instrument was administered during the first six weeks of each semester during a class time convenient to the instructor. Students who take this introductory course range from freshman to seniors and include school and community health education majors and minors. Students in other majors in the department (clinical laboratory science, environmental health, health information management, and safety) also completed the inventory in the introductory course of their respective major.

All inventories were administered by the same person using a protocol established by the creators of the CCTDI (Facione, Facione, & Giancarlo, 2000). Study participants were asked to sign a consent form if they chose to participate (fewer than 5% of students elected not to participate). Demographic and academic information on students (e.g. class standing, GPA, ACT scores) was obtained from university records. Analyses of the data were conducted using SPSS 12.0 for Windows. A critical value of $p \leq 0.05$ was used for all statistical significance tests.

The statistical analysis was divided into three parts. In the first analysis health education majors were compared to

other health science majors and health education minors in regards to critical thinking dispositions (total and seven distinct dispositions), demographic and academic information. In the next step of the analysis, bivariate relationships between critical thinking dispositions (total critical thinking dispositions) within fields of study (health education majors, health education minors, and other heath science majors), and demographic and academic variables were examined. In the third part of the analysis, multi-variable models for explaining the variation in critical thinking dispositions (total CCTDI scores) were explored.

In the first part of the analysis, categorical variables such as gender were analyzed using the chi-square test. Continuous variables were evaluated using the Student's t-test, and Mann-Whitney test when variables fail to follow a normal distribution. In the second part of the analysis, ordinary least square linear regression was used. The strength of association between independent variables and total CCTDI score was determined based on the correlation coefficient (r), beta value, and p-value.

In the third part of the analysis, we sought parsimonious models that included important explanatory variables, important confounding variables, and variables of a priori interest, e.g., field of study. In all models, field of study was included as an independent variable. First, variables that demonstrated a significant association with field of study were evaluated one at a time for confounding of the relationship between field of study and total CCTDI score. Confounding was defined as a dramatic change in the beta and p-value for field of study when the potential confounder was added to the model. Second, variables that were found to be significantly related to total CCTDI score (from Part 2 of the analysis) were added to the model. Finally, a number of parsimonious models were generated by eliminating variables that no longer made a significant contribution to the explanatory power of the model.

Results

A total of 96 health education majors, 187 other health sciences majors and 48 health education minors completed the CCTDI instrument from the Spring semester of 2000 through the Fall semester of 2003. As indicated in Table 1, the average overall CCTDI score for health education majors was 305. Only 5.2% scored 350 or higher which is considered an indicator of strength in critical thinking dispositions. A total of 19.8% of health education majors had scores indicating overall weakness in critical thinking dispositions (under 280). Health education majors did not differ significantly from other health sciences majors in critical thinking dispositions.

For health education minors, the average total CCTDI score was 295. This score is 10 points lower than health education majors and this difference is statistically significant. A total of 29.2% of health education minors had scores indicating overall weakness in critical thinking disposition. Health education minors scored lower across all subscales with two subscales, inquisitiveness and cognitive maturity, being significantly lower.

In Table 2 the comparison is shown between health education majors and all other health sciences majors on the basis of demographic and academic characteristics. These

Table 1

Comparison of CCTDI Scores for Health Education Majors, All Other Majors in the Department of Health Sciences, and Health Education Minors, Illinois State University, 2000-2003

Dispositions	Health education majors (n = 96)			All other majors (n = 187)			Health education minors (n = 48)		
	Mean (SD)	Percent "weak"[a]	Percent "strong"[b]	Mean (SD)	Percent "weak"[a]	Percent "strong"[b]	Mean (SD)	Percent "weak"[a]	Percent "strong"[b]
Truth-seeking	37.3(6.5)	67.7%	1.0%	37.0(6.3)	67.4%	1.1%	37.0(5.4)	64.6%	0.0%
Open-mindedness	45.2(6.4)	17.7%	18.8 %	44.4(6.0)	21.9%	15.5%	44.2(4.5)	18.8%	10.4%
Inquisitiveness	46.7(6.3)	12.5%	30.2%	46.6(6.4)	13.4%	27.3%	43.6(5.8)[c]	20.8%	12.5%
Analyticity	44.8(5.80)	16.7%	15.6%	44.8(5.4)	15.0%	16.0%	43.4(5.0)	20.8%	8.3%
Systematicity	41.7(6.0)	34.4%	7.3%	41.0(6.9)	43.3%	10.2%	40.9(6.8)	37.5%	6.3%
Confidence	44.1(6.1)	22.9%	18.8%	43.4(6.4)	26.2%	11.2%	42.9(5.4)	27.1%	6.3%
Maturity	45.2(6.0)	15.6%	16.7%	44.7(6.9)	23.0%	19.3%	43.0(6.1)[c]	29.2%	10.4%
Total	305.1(29.6)	19.8%	5.2%	301.7(29.1)	22.5%	5.3%	294.9(24.2)[c]	29.2%	4.2%

[a] A score below 40 for CCTDI subscales indicates weakness. For total scores, a value below 280 indicates overall weakness.
[b] A score above 50 for CCTDI subscales indicates strength. For total scores, a value above 350 indicates overall strength.
[c] Difference from mean for Health Education Majors significant at ≤ 0.05 level by both t-test and Mann-Whitney U-test.

Table 2

Comparison of Demographic and Academic Characteristics of Health Education Majors, All Other Majors in the Department of Health Sciences, and Health Education Minors, Illinois State University, 2000-2003

Demographic and academic characteristics	Health education majors (n = 96)		All other majors (n = 187)		Difference of health education majors and all other majors by t-test[a]	Health education minors (n = 48)		Difference of health education majors and all other majors by t-test[a]
	Mean	SD	Mean	SD	*P*	Mean	SD	*P*
Gender (% female)	86.5	NA	56.7	NA	<0.001[b]	45.8	NA	<0.001[b]
Age (years)	21.5	3.8	22.7	5.3	0.037[b,c]	21.0	1.4	0.405
Total college hours	97.0	51.8	108.2	64.8	0.142	108.3	51.4	0.217
ISU credit hours	68.9	29.0	74.0	33.5	0.206	83.6	27.8	0.004[b]
Transferred credit hours	28.1	30.9	34.2	38.1	0.176	24.7	29.6	0.534
ISU GPA	2.6	1.0	2.5	0.9	0.533	3.1	0.4	0.003[b]
High school percentile	67.4	17.2	66.7	15.9	0.789	69.4	15.8	0.590
ACT Composite	21.1	3.1	21.2	2.8	0.735	21.1	3.1	0.592
ACT Science Reasoning	21.1	3.1	21.6	3.0	0.262	21.1	3.1	0.514
ACT English	20.4	3.9	20.6	3.8	0.734	20.4	3.9	0.979
ACT Math	20.3	3.7	20.6	3.7	0.624	20.3	3.7	0.019[b]
ACT Reading	22.0	1.6	21.5	3.8	0.382	22.0	1.6	0.264

[a] *P*-values were obtained by t-test except for gender comparison, where chi-square test was performed.
[b] Difference is significant at the 0.05 level.
[c] Unequal variance.

two groups were comparable in all variables except a higher percentage of health education majors were female and this group was, on average, one year younger. The results presented in Table 2 also show the comparison between health education majors and heath education minors on the basis of demographic and academic characteristics. The two groups varied significantly on four variables. Health education minors included fewer females, earned more credit hours at ISU, had a higher ISU GPA, and scored higher on the math component of the ACT.

The bivariate relationship between students' overall disposition and each of the demographic and academic variables for health education majors and other health science majors is presented in Table 3. Results indicated that overall critical thinking disposition was significantly and positively related to age, total credit hours, ISU credit hours, transferred hours, ACT science reasoning, and ACT reading.

The bivariate relationship between the students' total critical thinking disposition and each of the demographic and academic variables for health education majors and minors is explored in Table 3. Total CCTDI score was not significantly related to any of the variables except for field of study. It is worth noting that age and ISU credit hours showed the same relationship with total CCTDI score as they did for health education majors and other majors (see Table 3) based on beta and R. However, because of smaller sample size (a total of 144 health education majors and minors as compared to a total of 283 health education majors and all other majors), p-value does not reach the level of statistical significance.

Results of multiple regression models on total critical thinking disposition scores for health education majors and other health science majors are presented in Table 4. After testing for potential confounding effects (none found), independent variables demonstrating statistical significance in Table 3 plus the variable "field of study" were entered into a stepwise regression model. Results of stepwise regression indicated that only age and ACT science score were significant predictors of total critical thinking disposition score. Because about one-fourth of students did not have recorded ACT scores, the sample size was reduced from 282 to 203, thus raising concern about the validity of these results. Therefore, an alternative and more robust model would include only field of study and age (Table 4). This model indicated that a person's age is a good predictor for critical thinking dispositions and that health education majors did

Table 3

Relationship Between Overall Critical Thinking Disposition Score and Each Demographic or Academic Variable (Bivariate Analyses) for Health Education Majors, All Other Majors and Health Education Minors in the Department of Health Science of Illinois State University, 2000-2003

Independent variables	Health education majors and all other majors (n = 283)			Health education majors and minors (n = 144)		
	R	Beta	*P*	R	Beta	*P*
Field of study[a]	0.055	3.403	0.355	0.171	-10.198	0.041[c]
Gender[b]	0.068	-4.215	0.254	0.035	2.24	0.674
Age	0.177	1.068	0.003[c]	0.122	1.066	0.145
Total credit hours	0.143	0.069	0.016[c]	0.062	0.034	0.459
ISU credit hours	0.135	0.122	0.024[c]	0.131	0.125	0.119
Transferred credit hours	0.122	0.100	0.040[c]	0.020	-0.019	0.810
ISU GPA	0.053	1.661	0.378	0.009	-0.312	0.911
High school percentile	0.049	-0.088	0.515	0.022	0.038	0.832
ACT composite	0.122	1.218	0.082	0.059	0.565	0.547
ACT Science Reasoning	0.172	1.692	0.014[c]	0.027	0.260	0.783
ACT English	0.071	0.562	0.313	0.156	1.214	0.111
ACT Math	0.023	0.185	0.747	0.065	-0.502	0.509
ACT Reading	0.170	1.247	0.015[c]	0.083	0.562	0.397

[a] In Table 3a: Health education major = 1; All other majors = 0;
in Table 3b: Health education major = 0; Health education minors = 1.
[b] Female = 1; Male = 0.
[c] Difference is significant at the 0.05 level.

not differ significantly from other health sciences majors on total disposition scores.

The model for health education majors and minors is presented in Table 4. After testing for potential confounding effects (none found), independent variables entered into the stepwise regression model included field of study, age, and ISU credit hours. Age and ISU credit hours did not show statistical significance in the bivariate analysis but were included in the model because they demonstrated a relationship similar to that seen Table 3 (see previous results). Results of the stepwise regression indicated that field of study was the only statistically significant predictor.

Table 4

Results of a Multiple Linear Regression on CCTDI total score of Health Education Majors, All Other Majors and Health Education Minors in the Department of Health Science of Illinois State University, 2000-2003

	Health education majors and all other majors (n = 283)			Health education minors and minors (n = 144)		
	Beta	R	*P*	Beta	R	*P*
Model		0.193	0.005[a]		0.203	0.051
Variables in the model:						
Field of Study[b]	4.690		0.199	-9.736		0.50[b]
Age	1.120		0.002[c]	0.966		0.183

[a] Model significant at 0.05 level.
[b] In Table 4a:Health Education major = 1; All other majors = 0.
In Table 4b:Health Education major = 0; Health Education minors = 1.
[c] Significant at the 0.05 level.

However, age showed the same relationship with critical thinking disposition as it did for health education majors and other health science majors and was therefore included in the final model (Table 4). After adjusting for age, health education majors, on average, scored 9.7 points higher in total CCTDI score than health education minors, a statistically significant result (p=0.05).

Discussion

Results of this study indicated that only a very small percentage of students (5.2%) in the early stages of their health education professional preparation possess strong critical thinking dispositions. The results were consistent with those found in other studies measuring critical thinking dispositions among undergraduate students in general (Bers, McGowan, & Rubin, 1996; Giancarlo & Facione, 2001) and among students in other disciplines such as nursing (Coucciollo, 1997; Walsh & Hardy, 1999), physical therapy (Bartlett & Cox, 2002), environmental health (Jin, Bierma, & Broadbear, 2004), agriculture (Rudd, Baker, & Hoover, 2000), and business (Wilson, 2000). The evidence from the present study and from other studies is clear. Weak critical thinking dispositions are common among undergraduates. Fostering the development of strong critical thinking dispositions is needed but represents a significant challenge to faculty.

Truthseeking was low for all students in the study with an average score below 40. Weakness in this disposition of the "courageous desire for the best knowledge" can significantly hamper one's ability to think critically (Facione, Facione, & Giancarlo, 2000; Facione, 1998). Students weak in truthseeking may therefore have a tendency to accept the most obvious or convenient answer available when they are presented with questions requiring reasoning. Manifested in the practice of health education, weakness in the truth seeking disposition could lead to accepting false assumptions in the assessment of needs, designing programs without sufficient involvement or consideration of participants, and inferring more significant results from program evaluation than available data warrant. These behaviors are common in our experience working with undergraduate health education students and represents a serious threat to quality health education.

One of the most compelling results from the study was the differences in critical thinking disposition scores between health education majors and minors. It has long been the experience among faculty in our program that minors did not seem as engaged in the study of health education as majors. Certainly there are individual students who are exceptions to this experience, but it has been a common occurrence overall. The assumption has been that health education minors, nearly all (90%) of whom were physical education teaching majors pursuing a minor in school health education, were simply not as interested in health education. Results of this study indicated, however, that health education minors were *generally* weaker in thinking dispositions and were significantly lower in the dispositions of inquisitiveness (curious and eager to acquire knowledge and learn explanations even when the applications of the knowledge are not immediately apparent), cognitive maturity (prudence in making, suspending, or revising judgment; awareness that multiple solutions can be acceptable; appreciation of the need to reach closure even in the absence of complete knowledge), and total critical thinking disposition. Minors had lower scores even after adjusting for various demographic and academic variables (see Table 2). Remarkably, these were the findings despite the fact that minors had a higher cumulative grade point average than majors (3.1 vs. 2.6) and were further along in their undergraduate studies (total credit hours earned 108.3 vs. 97). One might assume that when comparing two groups of students, the group with the higher grade point average and more undergraduate credit hours earned would possess stronger critical thinking dispositions. But the comparison of health education minors and majors in this study produced the opposite result. This finding reinforces a key aspect of research on critical thinking dispositions. Many traditional measures of academic achievement such as grade point average do not reflect the status of students' critical thinking dispositions (Paul & Elder, 2001).

It is important to reinforce the meaning of the findings that health education minors/physical education majors scored lower on inquisitiveness, cognitive maturity and total critical thinking disposition. Critical thinking dispositions are not contextual. In other words, recalling Facione's (2000) definition of human dispositions as people's "consistent internal motivation" and "habitual" ways of acting, health education minors participating in this study displayed a habit for being weaker in some dispositions. These students would not display stronger critical thinking dispositions in their major courses than in their minor courses. It is possible that weaker critical thinking dispositions are common to physical education majors but this is an issue that warrants further research.

The results of this study indicated that health education students need help in developing critical thinking dispositions. What can faculty in health education professional preparation programs do to assist in this developmental process? Possibilities include the modeling of strong critical thinking dispositions, using dialectical pedagogies such as the Socratic method, and engaging in the scholarship of teaching and learning.

Instructors have a unique opportunity and responsibility to model strong thinking dispositions for students. Modeling the dispositions in a strong sense gives students a living example of how dispositions such as inquisitiveness and truthseeking are relevant to and useful in their personal and professional lives (Facione, Sanchez, Facione & Gainen, 1995; Perkins & Tishman, 1998). Faculty can model strong dispositions by enthusiastically engaging students in the inquiry of ill-structured problems that require reasoning instead of rote memorization (King & Kitchener, 1994). Dispositions also are positively modeled when faculty

make the effectiveness of their own teaching a subject for public scrutiny in the classroom (Paul & Elder, 2001).

Faculty also can model dispositions as they engage students in dialectical pedagogies. Discussion and dialectical instructional strategies such as the Socratic method, which engages learners in the progressive deliberation of issues through facilitated discussions (Elkind & Sweet, 1997), affords members of the class the opportunity to challenge each other when weak dispositions are displayed and compliment and support each other when strong dispositions are demonstrated (Elder & Paul, 1998; Powell, 2002; Savage, 1998).

Faculty can conduct research designed to discover how instructional strategies used in professional preparation courses affect the development of students' critical thinking dispositions. Pedagogical research such as this, know as the scholarship of teaching and learning (SOTL), exemplifies the growing emphasis in higher education on improving instructional outcomes through inquiry into teaching and learning (Kreber, 2001). The results of the present study provide necessary data to help describe critical thinking dispositions among health education students during their introductory health education course. Additional research is needed to assess the status of critical thinking dispositions among students throughout their professional preparation and to examine the impact of selected pedagogies, such as the Socratic method and service learning, on the development of the dispositions (e.g. Sedlak, Doheny, Anaya, & Panthofer, 2003). SOTL research of this kind could lead to a greater understanding of the how critical thinking dispositions develop and the purposeful educational activities that can assist that development.

The present study is limited in several ways. The sample size was relatively small. The results cannot be generalized to all undergraduate health education students enrolled in introductory health education courses at other universities. Nor does the present study explain why the disposition scores differed between health education majors and minors. Additional research on critical thinking dispositions to address these limitations is needed.

Health education students, like most undergraduates, do not enter the university and professional preparation programs with well-developed critical thinking dispositions. Engaging students in thinking about and through complex problems for which there are no easy or clear answers is necessary to their professional development. But when students seem to lack interest in being so engaged and would rather have *the* right answer provided for them, they are demonstrating weak thinking dispositions. It is important to clarify that this manifestation of weak critical thinking dispositions does not mean students lack a strong desire to be a health educator. Many of them certainly do. What is lacking in many students is the internal motivation to think deeply and carefully when presented with the kinds of problems health educators must. Making the development of critical thinking dispositions a focused part of students preparation to enter the profession is a desirable goal and challenging problem.

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