

An Analysis of Water Safety Behaviors Among Migrant and Economically/Educationally Disadvantaged Middle School Students

Victor S. Sbarbaro and Theresa M. Enyeart Smith

Abstract

This water safety study was both descriptive and exploratory in nature. The purpose was for middle school students to assess their own water safety experiences and to help school decision-makers determine the extent of drowning/water accidents. In July 2009, a water safety survey was administered to 122 students participating in the local Summer Connection Program for seventh, eighth, and ninth grade students, which included children of migrant families as well as economically and educationally disadvantaged students. Chi-square analyses found that Hispanics were less likely than either Whites or Others to have worn personal flotation device ($p \leq .001$), low ability swimmers were less likely to wear a personal flotation device, Hispanics were less likely to swim in ponds, health problems were a barrier to swimming for all ethnicities except Whites, more ninth graders had friends who enjoyed swimming, and more females felt their nearest pool was in good condition ($p \leq .05$). Schools and other community resources need to work together and educate more children ages 1-14 to improve water safety awareness. Drowning rates are higher among minorities, which may be related to a lack of water safety education and awareness. Future research should continue to examine causes of drowning for K-12 students.

Background

Globally, drowning is considered to be the third leading cause of accidental death and is a central concern for childhood injury issues (Scott, 2007; World Health Organization, 2009). Approximately 1,100 children under the age of 20 in the United States had their lives claimed by drowning in 2006 (American Academy of Pediatrics, 2010). Drownings among children occur in various settings. The majority of drownings for children under the age of one, occur in bathtubs, toilets, or buckets. Then as children get older, a majority of drownings occur in unsupervised residential pools, followed by natural water settings or waterfronts such as lakes, rivers, streams, and storm drains (Brenner, Trumble, Smith, Kessler, & Overpeck, 2001). The American

Red Cross (2007) defines waterfronts as open-water areas, such as lakes, rivers, ponds and oceans. Waterfronts can vary in water quality, clarity, currents and beach conditions (American Red Cross, 2007). The Centers for Disease Control and Prevention (2009) state that unintentional injuries are the leading cause of death for children ages 1-14 and drowning is the second leading cause of death under the unintentional injury category, with many occurring in natural water settings (e.g., lakes, rivers, or oceans). Due to the age range of these fatal incidents, improved education and awareness of water safety skills are necessary among caregivers (Lee & Thompson, 2007).

Several contributing factors play a role in the high rate of drownings. The physical environment surrounding victims is one factor. A study conducted in 2004 indicated that the physical environment (e.g. access to swimming pools) in combination with social and cultural issues (e.g. the value placed on swimming skills and water related activity choices) might contribute to racial differences in drowning rates (Branche, Dellinger, Sleet, Gilchrist, & Olson, 2004). Most drownings in those over 15 years of age occur in natural water settings (Gilchrist, Gotsch, & Ryan, 2004). Many young victims lack proper water safety education prior to entering natural waters.

Another contributing factor influencing the drowning rates is the level of individual water safety skills used in open water. One significant skill youth need to have is knowledge of how to properly use a life jacket. The U.S. Coast Guard reported that 709 boaters died in 2008, and 9 out of 10 were not wearing life jackets (U.S. Department of Homeland Security, U.S. Coast Guard, & Office of Auxiliary and Boating Safety, 2009). While children preschool age and younger tend to drown in pools, older children and adults have greater drowning rates while swimming or boating in open water environments (Quan, Bennett, & Branche, 2006).

Proper water safety skills and swimming skills are necessary to help reduce the rate of drowning among youth. The United States Coast Guard reported in 2008 that 90% of boating drownings were among individuals not wearing a personal flotation device (PFD) (U.S. Department of Homeland Security, U.S. Coast Guard, & Office of Auxiliary and Boating Safety, 2009). Of the children under the age of 14 involved in boating related incidents, 45% were not wearing a PFD (U.S. Department of Homeland Security, U.S. Coast Guard, & Office of Auxiliary and Boating Safety, 2009). Although the use of PFD has not been heavily evaluated, it is felt the regular use of PFDs will reduce morbidity and mortality incidents related to drowning (American Academy of Pediatrics, 2010).

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Ethnicity and parental influence also have shown to be factors among victims of drowning. Underrepresented groups face various challenges in their pursuit of constructive out-of-school activities (Wood, 2006). Several studies indicate that there is a significant difference between swimming abilities among youth of various parental, racial and socioeconomic backgrounds. Irwin, Drayer, Irwin, Ryan, and Southall (2008) surveyed children between the ages of 6 and 16 and found that parental influence and race were two large factors affecting the youths swimming abilities. Irwin et al. (2008) also indicated that low socioeconomic status is related to higher drowning fatality rates. Another study conducted in 2004 found similar results showing that white children exceed African-American and Hispanic children in drowning deaths (National Safe Kids Campaign, 2004). A majority of the drowning deaths reported in the study (69%) were among White individuals compared to other races considering a higher number of swimmers in the study fell into that category. Following White individuals, 30% of deaths were among Hispanic children, and 19% were among Black children (National Safe Kids Campaign, 2004). Further studies focusing on swimming ability indicated that 60% of African-American and 57% of Hispanic children lack proper swimming skills and are unable to swim. These results are nearly double that of their White counterparts (American National Red Cross, 2009). Lack of swimming ability can greatly increase the risk of death due to drowning among minority children. Drowning rates would decrease if there was an increase in minority participation in swim programs at an earlier age (American National Red Cross, 2009). Within the guidelines for safe recreational water environments, it is suggested that over 80% of all drowning incidents can be prevented and primary prevention is critical (Mackie, 2006).

Due to the high drowning rates in the state of California, the state's legislation and prevention strategies are used by many other states to aid in reducing drowning rates. Drowning is the number one cause of death related to unintentional injuries in California and due to this fact, county departments of Health and Human Resources and fire departments are taking action to help with this problem (Griffith & Carreon, 2008; Phua, 2008). During the months of May and June, Northern California officials rescue and observe many individuals who are not wearing a PFD in a water environment when one needs to be worn (Griffith & Carreon, 2008; Phua, 2008).

Individuals not wearing a PFD is of major concern locally and nationwide. Nationally, in 2005, 87% of individuals involved in boating accidents were not wearing a PFD (Johnson, 2008). In California, due to the high number of individuals not using a PFD and the high number of preventable deaths due to drowning, county departments of health and human resources are loaning PFDs to children to use in various water settings (Griffith & Carreon, 2008; Johnson, 2008). Fire departments also are launching public awareness campaigns stressing the importance of proper PFD use and encouraging greater parental supervision (Griffith & Carreon, 2008; Johnson, 2008). The water safety and

drowning problems are large enough where local legislation in Northern California also is aiming to take action to mandate wearing a PFD in open water (Milbourn, 2008). This legislation is intended to keep children and adults safe and reduce the number of preventable deaths.

Purpose

The fundamental purposes for this exploratory investigation were to determine swimming locations of the participants, if they had ever swum at a waterfront, if they had ever worn a life jacket or if they would wear a life jacket at a waterfront, and barriers influencing swim participation among the stated population. The sample was recruited from areas in Northern California which are geographically located by many waterfronts including: creeks, rivers, ponds, lakes, "swim holes," beaches, and the ocean.

Research questions for this study are as follows: (a) Does a difference exist among ethnicity in regards to wearing a life jacket? (b) Does a difference exist among abilities to swim and wearing a life jacket? (c) Does a difference exist between ethnicity and swimming locations? (d) Does a difference exist among ethnicity and improvement of swimming skills? (e) Does a difference exist among ethnicity and not swimming due to health problems? and (f) Does a difference exist among grade levels and having friends who swim?

Methods

Subjects

The Summer Connection Program, a three week educational program for seventh, eighth and ninth grade students who attended schools in two northern California counties, was implemented during the summer of 2009. Injury prevention and safety was one of the main focal points during the three-week program, which included a unit on water safety. The purpose and mission of the Summer Connection Program was to introduce middle school students to a summer college experience via an enriched curriculum that would increase their skill levels in basic subjects and provide career exploration skills, ultimately aiming to increase high school graduation rates and promote the concept of higher education. The Summer Connection Program was a collaboration among a northern California community college, the Educational Talent Search Program, and the Area IV Migrant Education Program. The subjects for this pilot study were all participants within the Summer Connection Program. The water safety survey was administered to 122 seventh, eighth, and ninth grade students participating in the program held at northern California community college in July of 2009. The sample was unique in that it included children of migrant families as well as economically and educationally disadvantaged students. Participants qualified for the program through the Federal TRIO Program. Federal TRIO Program guidelines were used to determine qualification for participation. "As mandated by Congress, two-thirds of students served must

come from families with incomes meeting the current Federal TRIO Program's Annual Low Income Levels, where neither parent graduated from college." (Educational Talent Search Program, nd, para. 4)

The Butte College Office of Education (2006) gives this definition of a migrant child:

A 'migrant' child is defined as a child who is, or whose parent, spouse, or guardian is a migratory agricultural worker, including a migratory dairy worker or a migratory fisherman. The child must have moved in the preceding 36 months (3 years) across school district boundaries or from one state to another or accompany such parent, spouse, or guardian in order to obtain temporary or seasonal employment in agricultural, fishing or logging work as the principle means of livelihood. (para. 3)

It is important that states actively seek migrant families and develop comprehensive recruitment plans that include both school-based and community-based activities.

Instrument

The instrument used in this study consisted of 22 items measuring various swimming constraints. The instrument was derived from a survey used in a study commissioned by USA Swimming, which originally consisted of 37 items measuring barriers to swimming such as pool availability, access, safety issues, parental economic status, parent swimming ability, and respondent to school lunch programs. The items not included in the current study were parental economic status, parent swimming ability and school lunch program participation. Permission was granted to use the USA Swimming-Commissioned Survey. The original instrument was designed in collaboration with representatives from USA Swimming, (Irwin et al., 2008). Content/face validity analyses were conducted prior to the administration of the survey. A reliability analysis was also conducted by administering the original survey to a pilot sample of 100 respondents. The pilot sample was similar to the current study's sample as it consisted of youth within the middle school age range with a majority being minority, approximately half were male, and varying swimming abilities existed (Irwin et al., 2008). For the content/face validity analysis, a panel consisting of adolescent and aquatics studies professionals reviewed the instrument for accuracy and validity. Cronbach's Alpha, used for the original instrument's reliability, was .80, indicating the survey was appropriate for its intended use (Irwin et al., 2008).

The original instrument did not address waterfronts and the use of PFDs. As stated earlier, a high number of water incidents include those not wearing a PFD in various water settings (Griffith & Carreon, 2008; Johnson, 2008). Therefore, the survey used for the current study was adjusted to include these variables. (See Table 1: Items addressing swimming locations of participants and use of life jacket behaviors.) In addition to the barrier items assessing swimming, variables were added to examine willingness and frequency of life jacket use as well as swimming ability and experience.

Reliability for the revised 22-item survey was calculated at .851 indicating that the revised survey was appropriate for its intended use. The final survey was adjusted to gather more detailed information on water safety skills and swimming environments.

Procedures

Prior to administration of the water safety survey, written parental consent was obtained for the students and the research was approved by the Human Subjects Committee at California State University, Chico. The written water safety survey was administered prior to the instruction of the water safety unit. The survey was administered once to six groups totaling 122 students over a one day period in July 2009. Identical directions were read aloud for each of the six groups prior to completion of the survey. Student participation was voluntary and the responses were anonymous. The investigator collected surveys and entered data into the Statistical Package for Social Sciences (SPSS) version 16.

Data Analysis

Both descriptive (frequencies) and inferential statistics were used to summarize and analyze the data collected. SPSS was used to generate descriptive statistics to summarize the data (Table 1).

Pearson Chi-Square tests for independence were used to evaluate statistical significance for all variables. A summary of statistically significant findings addressing water safety are presented in Table 3. Ethnicity was re-coded into three groups (White, Hispanic, and Other) for the purpose of generating cell counts sufficient for cross tabulation analyses. The Other category included African American/Black, Asian/Asian American, American Indian/Alaska Native, Native Hawaiian/Other Pacific Islander, Multi-Racial, and Other, which each included nine or less participants. Likewise, many of the questions regarding life jackets and barriers to swimming were re-coded into two groups.

Results

The total number of respondents in the Summer Connection Program was 122. The total number included all students in attendance the day the survey was administered. None of the students attending the program chose not to participate. Among the participants, 53 (43.4%) were male and 69 (56.6%) were female (Table 1). The greatest proportion of individuals were Hispanic/Latino ($n = 57$, 46.7%), followed by White ($n = 39$, 32.0%). The students ranged in grade level with 32 (26.2%) seventh graders, 42 (34.4%) eighth graders, and 48 (39.3%) ninth graders. Over half of participants had never taken swimming lessons ($n = 68$, 55.7%), but all had swum in a swimming pool at some point in their lifetime. Of those who took swimming lessons at some point, 24 (19.7%) had taken one year of lessons and the remainder took between two and five or more years.

Table 1

Demographics of Water Safety Survey Respondents

Variable	N (Total = 122)	Variable	N (Total = 122)
Gender		Swim ability	
Male	53	Unable to swim	2
Female	69	Can swim a little	14
Race		Cannot swim long	34
White	39	Can swim for a long period	47
African American/Black	3	Swim competitively for extended time	25
Asian/Asian American	5	Summer pool frequency	
Hispanic/Latino	57	Never/very rarely	8
American Indian/Alaska Native	2	Rarely (1-2 times/month)	25
Native Hawaiian/Other Pacific Islander	0	Sometimes (> 1-2 times/month)	35
Multi-racial	9	Frequently (1-2 times/week)	53
Other	7	Non-summer pool frequency	
Grade		Never/very rarely	50
7th	32	Rarely (1-2 times/month)	37
8th	42	Sometimes (> 1-2 times/month)	24
9th	48	Frequently (1-2 times/week)	11
Have you ever taken swim lessons?		Most likely means of getting to a swimming pool	
Yes	54	Walk/bike/skateboard	36
No	68	Ride with friend	19
How many years did you take swim lessons?		Ride with parent/other family/caregiver	66
One	24	Public transportation/bus	1
Two	11	Have you ever worn a life jacket/PFD?	
Three	6	Yes	98
Four	6	No	21
Five or more	7	Maybe	3
What type of swim lesson did you take?		Do you wear a life jacket/PFD when you enter a waterfront?	
Public	34	Yes	30
Private	4	No	65
Both (public & private)	19	Maybe	27
Have you ever swum in a pool?		Would you wear a life jacket/PFD at a waterfront if one was available?	
Yes	122	Yes	47
No	0	No	19
Have you ever swum in a lake/river?		Maybe	56
Yes	114		
No	8		
Have you ever swum in a canal/pond?			
Yes	64		
No	52		
Have you ever swim in the ocean?			
Yes	80		
No	42		

Table 2

Swimming Constraint Scale and Pool Availability, Access, and Safety Issues

Variable	Strongly Agree (N)	Agree (N)	Disagree (N)	Strongly Disagree (N)
Everyone should learn how to swim.	71	48	2	1
I would like to improve my swimming skills.	34	67	19	2
I have at least one friend who enjoys swimming.	66	45	8	3
The nearest pool is in good condition.	62	51	8	1
I feel safe in that pool (nearest).	65	45	9	3
It is easy for me to get to that pool.	57	50	10	5
I do not swim because I do not enjoy it.	4	8	25	83
I do not have enough money to go swimming.	3	8	48	62
Swimmers are primarily White/Caucasian.	3	11	38	70
I do not like to go to pools because I would be different from others.	3	5	43	71
Because of an injury or my health, I am unable to swim.	7	6	41	48
Because of the shape I am in, I am unable to swim.	1	7	35	79
I do not swim because I do not like to get my hair wet.	2	3	34	83
I do not swim because it affects my personal appearance.	0	4	41	77
I do not like to swim because of how I look in a swimsuit.	5	5	35	77
I do not like to swim because I am shy.	2	3	44	73
I do not swim because I do not have the right equipment/swimwear.	0	5	38	79
I have no time for swimming because I care for children after school.	1	7	45	69
I am not the swimming type.	4	9	32	77
I would swim if I had someone to go with.	31	50	24	17
I have no time for swimming because I participate in other sports/activities.	2	28	54	38
I am afraid of drowning/being injured while swimming.	10	15	48	49

Cross tabulations and Chi-Square analyses were conducted to determine levels of significance among the independent and dependent variables (refer to Tables 1 and 2 for variables). All reported significant results maintained the assumptions of the Pearson Chi-Square test (Table 3).

A significant relationship was found between ethnicity and wearing a life jacket (re-coded) ($\chi^2_{(2)} = 19.97, p \leq .001$) indicating that Hispanics appear to be less likely than either Whites or Others to have worn life jackets. Fewer Hispanics reported swimming in a pond than the other ethnic groups ($\chi^2_{(2)} = 12.98, p \leq .05$). Also, significantly more White respondents appear to have swum in the ocean than the other two groups (Hispanic/Latinos and Other) ($\chi^2_{(2)} = 11.94, p \leq .05$). A significant relationship was found between ethnicity and improving swimming skills as a barrier to swimming

($\chi^2_{(2)} = 6.23, p \leq .05$). A greater number of Hispanics/Latinos (91.2%) reported the desire to improve their swimming skills compared to Whites (71.8%) and Others (80.8%). All other results of the Chi-Square analyses either showed results that were not statistically significant or they violated the assumption that no more than 20% of the cells in a contingency table can have an expected frequency less than five.

Discussion

In order for students to attain good health and reach their potential for academic success, it is imperative that school districts address the issue of injury prevention and safety including water safety at all grade levels, specifically during

Table 3

Cross Tabulation Between Variables

Variable	Yes N (Expected)	No / Maybe N (Expected)	Total N (Expected)
Worn a life jacket x Ethnicity**			
Race			
White	37 (32.1)	2 (6.9)	39 (39)
Hispanic/Latino	36 (44.5)	18 (9.5)	54 (54)
Other	25 (21.4)	1 (4.6)	26 (26)
Ever swim in a pond x Ethnicity*			
Race			
White	28 (20.1)	11 (18.9)	39 (39)
Hispanic/Latino	20 (29.4)	37 (27.6)	57 (57)
Other	15 (13.4)	11 (12.6)	26 (26)
Ever swim in an ocean x Ethnicity*			
Race			
White	34 (25.6)	5 (13.4)	39 (39)
Hispanic/Latino	31 (37.4)	26 (19.6)	57 (57)
Other	15 (17)	11 (9)	26 (26)
Improve swimming skills x Ethnicity*			
Race			
White	28 (32.3)	11 (6.7)	39 (39)
Hispanic/Latino	52 (47.2)	5 (9.8)	57 (57)
Other	21 (21.5)	5 (4.5)	26 (26)

* $p \leq .05$. ** $p \leq .001$.

the months of April through September. Schools including lessons on water safety will enable students to improve their decision making skills related to unintentional injuries. When analyzing ethnicity and water safety risk factors, the results of this study support previous findings indicating that ethnicity plays an important role in water safety. The Hispanic/Latino group reported the desire to improve their swimming skills at a significantly greater level than the other two groups sampled. Results of this study also indicated that health issues play a significant role with the decision of whether or not to swim. The Hispanic/Latino and Other groups reported health problems (e.g. injuries and personal health status) as a barrier to swimming at a significantly higher level than the White group. Finally, the social aspects of individuals may also play a role with water safety. Children develop social bonds and friendships early in life that can affect their decision making. Considering the study found that significantly more ninth graders had friends who enjoyed swimming compared to seventh and eighth graders, it is important to focus water safety instruction to age groups prior to ninth grade. This may help to reduce water related accidents among the higher numbers of youth possibly swimming with friends and without adult supervision.

Future research on relationships among the variables within this study will enhance understanding of the risks associated with water accidents and drowning. Ethnicity is a significant independent variable within this study. Further examination of the relationship between ethnicity and water safety skills as well as barriers to swimming (e.g. the reporting of health problems in relation to the ability to swim) will enhance the understanding of risks associated with water accidents. A relationship between life jacket use and the ability to swim may also exist. It is crucial to be aware of these factors when instructing students on water safety or addressing any water safety issues within a community.

Although the Chi-Square tests analyzing the relationships between several pairs of variables (wearing a PFD and swimming ability, health problems and ethnicity, having friends who swim and grade level, and pool condition and gender) produced results with p-values less than or equal to 0.05, they violated an assumption of the Chi-Square analysis. Considering this event, not all of the proposed research questions were able to be answered with the current results. It is felt that these relationships and others are important to further investigate to have a better understanding of the reasons behind the high number of drowning incidents

locally and throughout the United States. In future studies, using larger sample size may assist in analyzing additional relationships among the variables, possibly allowing for statistically significant results to be used for explanation.

Although the water safety unit was not evaluated for this study, due to the high number of drowning incidents, it is imperative for the Summer Connection Program to continue incorporating the water safety unit, as well as encouraging the continuance of community water safety programs. The use of water safety initiatives may be used to assist with proper water safety instruction. Instruction may include water safety initiatives such as *Make a Splash* and *AquaSMART* (California Department of Boating and Waterways, 2004; USA Swimming Foundation, 2004). These are two child-focused water safety initiatives that align learn-to-swim resources in an effort to save lives. They are also able to be adjusted to various age groups and can easily be translated for any existing language barriers. *Make a Splash* is a program developed by the USA Swimming Foundation and *AquaSMART* is a resource center available through The California Department of Boating and Waterways. Parents, teachers, and students can also access water safety information by downloading free copies of *Healthy You*, a document written and published through the American Public Health Association (APHA). The online document is available at <http://www.apha.org/publications/tmh/archives/2008/JuneJuly08/HealthyYou/>.

Study Limitations

Limitations to this study should be considered when examining the results. Drowning risks vary at the state and local levels. Through conducting this study, it was found that limited data were available regarding life jacket use. Therefore, further comparison could not be made to analyze differences of state and local life jacket use at waterfronts. Also, considering the relatively small sample of convenience (122 students), it is key to not generalize the findings among all within the race/ethnicity, gender, and/or age group. Despite its limitations, this study adds to growing literature about the seriousness of water safety. Health educators should be mindful of the importance of discussing related facts regarding water safety environments for elementary, junior high, and high school students.

Translation to Health Education Practice

Due to the high incidence of drownings each year, the state of California is considering every month to be Drowning Prevention Month. Schools and other community resources need to work together and educate more children ages 1-14 to reduce drowning, which is the second leading cause of death for this age group. The drowning rate is higher among minorities due to a lack of exposure to aquatic activities (Irwin, Irwin, Ryan, & Drayer, 2009). One of the best suggestions that anyone can do to stay safe in, on and around the water is to learn how to swim. It is imperative that school

districts address the issue of injury prevention and safety by including water safety at all grade levels, specifically during the months of April through September if each student is to adopt a healthy lifestyle. There are several child-focused water safety initiatives that align learn-to-swim resources in an effort to save lives. *Make a Splash*, developed by the USA Swimming Foundation, *AquaSMART*, developed by the California Department of Boating and Waterways, and *Healthy You*, developed by APHA, are just a few resources to help the many responsible for the health and well being of today's children.

California's Sacramento County Department of Health and Human Resources provides innovative water safety resources to the county. Other state and county Departments of Health and Human Resources should follow Sacramento County's lead and loan out life jackets free of charge to individuals to use at various waterfront locations. City and county forces within California and within other states should call for coordinated legislation to require life jackets to be worn in open waterfronts. More fire departments throughout each region should also launch public awareness campaign programs in collaboration with school districts stressing the importance and proper use of life jackets and greater parental supervision. These and other water safety awareness activities will only help support schools' abilities to enhance water safety awareness among their students.

Conclusions

Significant relationships were found between (a) ethnicity and wearing a life jacket, (b) wearing a life jacket and swimming ability, (c) ethnicity and swimming location, and (d) grade level and social swimming behaviors, such as swimming with friends. These significant relationships are indicators of the need to continue the examination of the risks associated with drowning among K-12 students. Future research should continue to examine the causes of drowning for K-12 students at waterfronts, which will only assist in reducing the rate of drowning across the country.

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Sabrina Matoff-Stepp, PhD	HRSA, Office of Women's Health	2011
Catherine N. Rasberry, PhD, MCHES	Centers for Disease Control and Prevention	2011
Kelly Wilson, PhD, MCHES	Texas State University, San Marcos	2011
Jodi Brookins Fisher, PhD, MCHES	Central Michigan University	2012
Regina Galer-Unti, PhD, CHES	Walden University	2012
Amar Kankekar, PhD, MBBS, CHES, CPH	East Stroudsburg University	2012
James Leone, PhD, CHES	Bridgewater State College	2012
Susan McCarthy, PhD	Eastern Michigan University	2012
Michele Pettit, PhD, CHES	University of Wisconsin, LaCrosse	2012
James F. McKenzie, PhD, MPH, MCHES	Ball State University	2013
Anthony V. Parrillo, PhD, CHES	E11even Consulting Services	2013
Darson L. Rhodes, PhD, CHES	State University of New York, Brockport	2013
Catherine M. Sherwood-Laughlin, HSD, MPH	Indiana University	2013
Ronald Williams, Jr., PhD, CHES	Mississippi State University	2013