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Enhancing the Relevance and Effectiveness of Water Safety Education for Ethnic and Racial Minorities

Matias Ignacio Golob, Audrey R. Giles, and Kyle A. Rich

In this paper we explore the ways in which culturally based beliefs, attitudes, and behaviors influence participation in and the development and delivery of water safety education programs. We examine existing data pertaining to ethnic and racial minorities' drowning rates and argue that these groups' high rates of drowning are related to a failure to understand and account for non-Eurocentric beliefs, attitudes, and behaviors, and issues of social exclusion. We then summarize health communication strategies and provide real-life examples of these strategies at work in water safety education. Finally, we identify four overarching promising practices to enhance the relevance and effectiveness of water education programs targeted at ethnic and cultural minorities. In short, we argue that literature pertaining to cultural aspects of water safety needs to be translated into evidence-based approaches that fundamentally change the ways in which water safety education programs are designed and delivered.

Keywords: ethnic and racial minorities; drowning risk; culture; health communication

In recent decades, migration flows have largely reflected a unidirectional movement of people from non-Western societies and cultures to Europe, North America (Mexico excluded), Australia, and New Zealand. Such patterns have produced challenges for organizations working to prevent drowning incidents. Results from a recent study commissioned by the Lifesaving Society of Canada (2010) showed that new Canadians, particularly those who emigrated from Asian countries (e.g., China, Philippines, and India) were four times more likely, in comparison with those born in Canada, to report an inability to swim and a lack of water safety skills. The higher drowning risk of these groups suggests that water safety education programs in Canada might not be adequately meeting the needs of ethnic and racial minorities. We argue that the role of water safety-related beliefs, attitudes, and behaviors of diverse cultures may be effecting drowning prevention, and that a stronger understanding of these factors may be warranted. A better appreciation of beliefs, attitudes, and behaviors about water safety may be useful for improving the development and delivery of water education programs, not only in Canada but also around the world.

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Our paper draws on existing literature from around the world to identify promising practices for the development and delivery of more effective water education programs targeted at ethnic and racial minorities. We have organized our paper into three sections. The first section describes ethnic and racial minorities' drowning rates through an analysis of international drowning data. The second section draws on the existing literature to describe how culturally based beliefs, attitudes, and behaviors influence the drowning risk among ethnic and racial minorities. Finally, the third section draws on the work of health communication experts and contemporary examples to outline promising practices for enhancing the relevance and effectiveness of water education programs targeted at ethnic and racial minorities.

Statistical Data on Ethnic and Racial Minorities' Drowning Rates

Evidence to suggest that ethnic and racial immigrants experience higher drowning rates in the host country is rather inconclusive. The World Health Organization (WHO), considered by many as the expert global body on injury prevention, does not include citizenship status, birthplace, or nationality as major risk factors for drowning (ILSF, 2007). Crucially, most countries with high immigration levels, including Canada, do not keep death statistics by citizenship status, birthplace, or nationality.

There are a number of possible explanations for the lack of statistical data. In the first place, the classification of individuals according to citizenship status, birthplace, or nationality is a Western construct, and very few nations make use of such constructs to keep track of unintentional injuries. Many European countries do not collect any information on nationality or birthplace of their residents, while several Asian countries use mother tongue to keep track of their populations. Second, drowning rates in most high-income countries (HIC), notably those with high immigration rates, are decreasing (ILSF, 2007); as such, it may be that HIC countries have low interest in allocating limited resources to track drowning accidents or to direct scarce public money into prevention of a declining phenomenon. Indeed, a neo-conservative emphasis and overall focus on reducing the role of government in many high-income countries may deter organizations from collecting such data. By way of example, in New Zealand, the gathering of drowning data according to ethnicity has led to reports proposing the reduction of public spending to fund water safety campaigns and programs targeted at ethnic minority group members (Water Safety New Zealand, 2011). Lastly, some countries may produce more detailed data on water-related accidents or nonintentional accidents, but the reports are not made public or are not published in the English language; as a result, they were excluded from our analysis.

Ethnic and Racial Minorities Have Higher Drowning Mortality Rates

Our review of the literature revealed that Australia, New Zealand, the Netherlands, and the United States are the only known nations that have categorized and recorded racial and/or ethnic constructs associated with unintentional drowning

accidents. The data from these countries suggested that unintentional drowning rates are not equal across ethnic and racial population groups and that ethnic and racial minority group members have higher drowning rates in comparison with a nation's population as a whole.

Data from the United States showed that ethnic and racial minority group members (e.g., African Americans, Hispanic Americans, Asian-Pacific Americans, and Native Americans) drown at much higher rates than Euro-Americans (e.g., Brenner, Trumble, Smith, Kessler, & Overpeck, 2001; Center for Disease Control and Prevention, 2008; Hastings, Zahran, & Cable, 2006; Nasrullah & Muazzam, 2011; Saluja et al., 2006). A report prepared by the Center for Disease Control and Prevention (2008) showed that between the period of 2000 and 2007, the unintentional drowning rate for African American children was 3.1 times that of children of Euro-American heritage. For Native American children, the rate was 2.3 times that of Euro-Americans. Significantly, researchers (Nasrullah & Muazzam, 2011; Saluja et al., 2006) have indicated that while the rate of unintentional drownings among Euro-Americans decreases with age, it either remains stable or increases among ethnic and racial minority group members. For example, in a study developed to explore the circumstance surrounding pool drowning accidents among U.S. residents aged 5–24 years, Saluja et al. (2006) reported that by the time an African-American male becomes an adolescent, he is 14 times more likely than a Euro-American male adolescent to drown in a swimming pool, even when adjusting for household income.

Descriptive epidemiological data on injury incidence and mortality from the Netherlands (e.g., Schulpen, van Steenberg, & van Driel, 2001; Stirbu, Kunst, Bos, & van Beeck, 2006; van der Wal & Pauw-Plomp, 1996) have consistently showed that ethnic minorities, particularly those of Turkish and Moroccan origin, have a higher drowning mortality rate than the indigenous Dutch. For example, in a study developed to explore ethnic differences in injury related mortality in the Netherlands, Stirbu et al. (2006) reported that ethnic minority group members (i.e., Turkish, Moroccan, Surinamese, and Antilleans), and males in particular had an increased mortality rate from drowning accidents, even when adjusting for age, income, and place of residence (urban vs. rural). Likewise, in a study developed to explore the influence of ethnicity on child mortality in the Netherlands, Schulpen et al. (2001) indicated that youth of Turkish and Moroccan heritage had a higher mortality rate from drowning accidents compared with native-born children.

Epidemiological data on drowning mortality from Australia and New Zealand showed that Indigenous people and migrant populations have a higher mortality rate from drowning accidents compared with the native-born population (Jones, 2003; Water Safety New Zealand, 2011). Drowning mortality data compiled and analyzed by Water Safety New Zealand (2011) has shown that ethnic minority members (Maori, Asian, and Pacific peoples), and in particular adolescent males, drown at much higher rates than New Zealand Europeans. For example, between the period of 2005 and 2009, 23% of all drowning victims were Maori and 9% Pacific peoples, despite that member of the aforementioned ethnic groups make up, respectively, 15% and 7% of the population. Similarly, data analyzed by Jones (2003) indicated that in Australia people of Asian origin were over represented in rock fishing fatalities (Jones, 2003). Immigrants from Asian countries combined to represent 51% of rock fishing fatalities. Moreover, Jones reported that the majority (69%) of rock fishing fatality victims were born outside of Australia.

Factors That Impact Ethnic and Racial Minorities' Drowning Rates

The lack of water safety skills among ethnic and racial minority group members is often ascribed to socioeconomic factors (Irwin, Irwin, Martin, & Ross, 2010). According to Irwin et al. (2010), a common assumption is that ethnic and racial minority group members do not have enough money to acquire water safety-related skills and products (e.g., swimming lessons, lifejacket), or they live in neighborhoods that do not have access to swimming pools. Certainly, among immigrants to Canada, unemployment is typically higher, wages tend to be lower, and those who are employed very often work in jobs for which they are overqualified (Simmons, 2010). In addition, a large percentage of immigrants to Canada, particularly those originating from countries in Africa and Asia, come from rural or semirural populated areas (Statistics Canada, 2008)—regions that, according to Hastings, Cable, and Zahran (2005), offer few opportunities for swimming and water-based leisure and recreation, and, as a result, afford few formal and informal water safety education opportunities.

In support, findings from the World Drowning Report (International Life Saving Federation, ILSF, 2007) presented indications of global regions with higher rates of drowning mortalities. The report indicated that in 2002 the drowning rates per 100,000 in the African region (9.7), the Western Pacific region (7.7), and the South Eastern Asian region (6.3) were significantly higher than the Americas region (2.7) and the European region (4.1). In fact, China and India together contributed 43% of the world's drowning deaths (ILSF, 2007). Researchers (e.g., Linnan et al., 2007; Hyder et al., 2003) suggested, however, that the actual number of drowning mortalities in some Asian and African countries is likely much higher. For example, in a study of child mortality and injury in five Asian nations, Linnan et al. (2007) showed that the drowning death rate in Bangladesh, China, Philippines, Thailand, and Vietnam was 30 per 100,000. Hence, the lack of water safety skill may be attributed to the availability of swimming infrastructure.

Some researchers have suggested, however, that sociocultural factors warrant attention. For example, Giles and colleagues (Baker & Giles, 2008; Giles, Baker, & Rousell, 2007; Giles, Strachan, Stadig, & Baker, 2010) have argued that Aboriginal peoples in Canada are at a higher risk for drowning because water safety education programs fail to account for differences in beliefs, attitudes, and behaviors toward water safety that exist between Aboriginal and non-Aboriginal peoples in Canada. In other words, these researchers claim that water safety education programs do not reflect the needs of all Canadians. In the following section, we extend this line of thought by presenting data that suggest that racial and ethnic minorities may hold beliefs, attitudes, and behaviors about water-related activities and the acquisition of water safety skills that differ from mainstream Eurocentric beliefs.

Water-Safety Beliefs, Attitudes, and Behaviors

The existing literature pertaining to cultural and ethnic minorities provides examples that suggest individuals from non-Western cultures and societies have different beliefs and attitudes toward water safety than those who have been raised

in Western countries (Giles, 2005; Moran, 2006, 2008; Quan, Crispin, Bennett, & Gomez, 2006). For example, in a qualitative study that explored beliefs, attitudes, and practices regarding water safety among immigrant Vietnamese parents and adolescents in the United States, Quan et al. (2006) suggested that Vietnamese culture contributed to the respondents' apparent disregard for water safety. Focus group interviews indicated that the participants were unaware of drowning risks: the majority of Vietnamese parents and adolescents respondents believed fate, spirits, and circumstance out of the control of the individual were to blame for drowning mortalities; many respondents suggested that open water drowning occurs because "spirits pull you down" (Quan et al., 2006, p. 428). Moreover, the respondents noted that reasons for drowning in the United States differ from those in Vietnam (e.g., houses built over water, which increases chances of falling into water), that Vietnamese do not think of water as a means for recreation, and that the general approach for preventing drowning accidents in Vietnam is to simply avoid the water (Quan et al., 2006).

In another example, Giles' (2005) research showed that Dene menstrual traditions exercised a strong influence on residents' swimming practices in Trout Lake, Northwest Territories, Canada, a very small Dene community in northern Canada. Community members spoke of traditional teachings that women should not swim in the lake, that menstruating women should not go in a boat on the lake, and that males and females should not swim in the lake together. Such activities were believed to result in a number of negative outcomes such as "hurting fishes' spirits, have detrimental effects on female swimmers' reproductive abilities, particularly the birthing process, and the mixing of sexes could result in a negative impact on the man's hunting ability" (p. 16).

Thus, individuals from non-Western cultures may not identify drowning accidents as something that can be prevented, they may not believe that water should be used for recreational purposes, or they may have certain cultural constraints concerning who can and cannot swim and under what circumstances. These beliefs, attitudes, and associated behaviors may have an impact on the acquisition of water safety skills.

Water Safety Skills

Researchers have provided evidence to suggest that water safety beliefs and attitudes, as shared cultural products, influence ethnic and racial minority group members' acquisition of water safety skills (Irwin et al., 2010; Moran, 2006, 2008, 2010, 2011; Mulvaney & Kendrick, 2004; Quan et al., 2006; Taylor-Clark, Koh, & Viswanath, 2007). For example, van der Wal and Pauw-Plomp (1996) attributed the drowning rates of immigrant adolescents in the Netherlands to lack of participation in swimming lessons: they found that over 95% of native Dutch adolescents had a swimming certificate, whereas only 56% of Turkish and Moroccan immigrants of the same age had this certificate. The authors indicated that while most native Dutch parents generally agree that swimming lessons are necessary water safety skills for children, their findings suggested that Turkish and Moroccan parents do not share the same sentiment.

In an investigation of water safety knowledge, attitudes, and behaviors among Asian youth in New Zealand, Moran (2006) reported similar findings. He reported

that New Zealand youth who self-identified as being of Asian ethnicity were more likely to self-report an inability to swim and being unprepared to manage risk in the event of unintentional or intentional immersion. Moran reported that one third of Asian participants, in contrast to 11% of non-Asian participants, thought they could swim less than 25 m. Following this further, in a study developed to explore the safety knowledge, beliefs and behaviors of New Zealand rock fishers Moran (2008) revealed that individuals of Pacific and Asian origin were more likely to report they could swim less than 25 m and less likely to report CPR ability when compared with the native-born population.

Researchers from the United States (Gilchrist, Sacks, & Branche, 2000; Hastings, Zahran, & Cable, 2006; Irwin et al., 2010; Ito, 2008; Quan et al., 2006) have produced evidence that suggests a strong negative correlation between ethnic and racial minorities' drowning rates and swimming skills. For example, in a study exploring American adults' swimming ability, Gilchrist et al. (2000) reported that two-thirds of African American participants and almost half of the Hispanic American participants self-reported limited swimming ability, whereas only one-third of European-American participants self-reported a limited ability to swim. Quan et al. (2006) also reported the majority of Vietnamese immigrant respondents reported being poor swimmers or nonswimmers. These differences may reflect the impacts of social exclusion.

Social Exclusion

Some researchers have suggested that ethnic and minority group members' participation in water safety education programs are directly influenced by social exclusionary practices perpetuated by socially-constructed assumptions of who should and should not participate in water-based activities. In other words, participation differences may be related to the result of how water safety education is designed and delivered, including the infrastructure and concepts that support it. For example, Hastings et al. (2006) argued that instructional and competitive swimming programs in the United States, as well as the infrastructure that supports these programs, suggest swimming is a Euro-American activity. They suggested that being African American reduces the odds of participation in swimming by approximately 60%, even when adjusted for age, sex, and household income. Likewise, in a qualitative study of African Americans' barriers to water safety education, Ito (2008) reported negative attitudes about swimming are held by many African Americans and are reinforced by their family and friends, which perpetuates and reinforces the belief that swimming is predominantly a Euro-American activity.

For a further illustration of how beliefs and practices can lead to exclusion, consider the cultural practices pertaining to clothing that put Muslim women in a position that is unfavorable for effective or even safe participation in swimming and water safety programs. As Muslim women have unique cultural requirements, there are limitations and restrictions to participation that the organization and implementation of recreation programs place on these women (Taylor & Toohey, 2010). That is, the requirement of wearing traditional clothing in the presence of the opposite sex limits their ability to participate in activities in coed swimming environments. Furthermore, it has been noted that Muslim women may choose activities other than swimming or discontinue their participation in aquatic activities in favor of ones that allow for more modest clothing to meet these cultural

requirements (Kleindienst-Cachay, 2007, as cited in Kleindienst-Cachay, 2011). Current trends such as the development and rise in popularity of the “burquni” (a swimsuit designed to meet the needs of Muslim women), the increasing prevalence of gender-segregated swims at recreation facilities, and in some cases, even the development of programming geared directly for ethnic minority participants (e.g., the “Swimming for Muslim Women” program in Melbourne, Australia) provide evidence of efforts to overcome social exclusion as a factor for nonparticipation in aquatic programming. That having been reported, diverging beliefs surrounding clothing were particularly visible and obvious. There were many more complex considerations involving beliefs, attitudes, and cultural values pertaining to water and water safety practices that need to be considered in the development of best practices for delivering aquatics programming that is effective for all populations.

In Canada’s North, Rousell and Giles (2011) examined the ways in which the lifeguards’ leadership styles, the structure of programming, and the policies and regulations enforced at a northern swimming facility influenced Aboriginal participants’ experiences there. The findings from this case study suggested that the leadership practices employed by predominantly Euro-Canadian lifeguards from southern Canada had a negative effect on Aboriginal patrons’ experiences in the aquatic environment. Rousell and Giles (2011) examined power relations at the pool and determined that lifeguards’ approaches to leadership created and proliferated institutionalized racism, which, in turn, created an unwelcoming environment that discouraged Aboriginal patrons from fully participating in pool programs, such as swimming lessons, and from enjoying their experiences at the local pool.

Such exclusion has consequences. Researchers have found that ethnic and racial minorities’ lack of water safety education and/or poor swimming skill may concurrently impact their children’s exposure to, and participation in, water safety education (Hastings et al., 2006; Irwin et al., 2010; Ito, 2008). Indeed, it is primarily within families that children and adolescents learn leisure skills, interests, attitudes, and behaviors that are carried across the lifespan (Shaw, 1997). To illustrate, Ito (2008) reported African-American parents in the United States who exposed their children to swimming lessons had also been exposed to swimming as children, while African-American parents who were never exposed to swimming as children did not think their children should be either. According to Ito (2008), African-American parents who do not know how to swim are reluctant to take their children to swimming lessons for fear that if their children were at risk of drowning, they will not be able to help. Likewise, in a study that explored factors that influenced ethnic and racial minorities’ swimming participation, Irwin et al. (2010) found that African American and Hispanic American parents who reported lower swimming skill/comfort also reported less agreement with the idea that swimming is for them or for their children. Moreover, those respondents who were less skilled or comfortable in the pool were less likely to come from a family with members who could swim or were encouraged to participate in swimming (Irwin et al., 2010).

Researchers (Brenner et al., 2001; Irwin, Irwin, Ryan, & Drayer, 2009; Quan et al., 2006) suggested that as a result of limited access to swimming infrastructure, ethnic and racial minority populations were more likely to access swimming areas that were unsupervised and unsafe. For example, Quan et al. (2006) found Vietnamese immigrant adolescents to the United States preferred open water settings because they were free and less restrictive. According to Quan et al. (2006), Vietnamese immigrant adolescents visited open water, lakes, and rivers because

there was no charge to use the spaces, and because they did not feel that they belonged in the recreation spaces (e.g., pools) of people from the mainstream culture. In the same manner, Brenner et al. (2001) reported that ethnic and racial minority groups in the United States were more likely to engage in water-related recreation in remote, unguarded settings because of limited access to safe swimming areas. Furthermore, Brenner et al. (2001) indicated that the locations where ethnic and racial minorities in the United States tended to swim were more likely to have poorer levels of supervision. Their investigation suggested that the swimming pools in which ethnic and racial minorities swam were inherently less safe because they were more crowded.

Social exclusion has been reported to occur as a result of water safety and swimming instruction practices. Rich and Giles (in press) evaluated the pilot of the Shallow Water Pool Lifeguard certification created specifically for facilities in Canada's Northwest Territories. Their research demonstrated that the practices and requirements in current lifeguarding certifications, and water safety programming in the North were not meaningful and set unrealistic/unnecessary requirements for northern residents. For example, before this new certification, lifeguards were required to complete difficult deep-water skills to earn a certification to work at their local pools, despite the fact that many of the pools only had water to a depth of three feet. Because of the shallow depth, the participants had no opportunity to learn deep-water skills, nor did they have a need to use them. The difficulties in attaining the required certifications represented a significant form of exclusion whereby territorial regulations demanded skills for which northern residents had little opportunity to obtain or use. Likewise, Giles et al. (2007) noted that standard "Pre-Departure Checklist," issued by the Canadian Coast Guard and used in swimming and water safety programming, failed to include items (e.g., a gun for protection or hunting) and practices (e.g., saying a prayer or making an offering to the water) that local residents "identified as being clearly linked to boating and water safety, and thus the maintenance of good health" (p. 35). Accordingly, these authors argued for a need to further adapt the program by including local knowledge and culture in order to better tailor the program to northern residents' needs. Rich and Giles (in press) noted that the inclusion of these local knowledges would allow for swimming and water safety programming to become more effective and meaningful for northern residents as it would include and legitimize their beliefs and practices.

Ito (2008) focused on swimming instructors rather than lifeguards. She suggested that cultural reproduction of swimming beliefs and attitudes takes place at the instructor level: it is in the curricula of the certification programs that attitudes and values are supported, conveyed, and transmitted. Accordingly, Ito (2008) argued that successful teaching might require the acknowledgment that traditional swimming and water safety education is Eurocentric in its view and methods. Hence, reducing ethnic and racial minorities' drowning risk requires, as a first step, the acknowledgment that swimming and water safety education is Eurocentric in its approach and methods and might require some cultural adaptations (Ito, 2008). Indeed, acknowledging that ethnic and racial minorities might have a different view of swimming and water safety education, and appreciating that the normative framework reproduces such perceptions, might be what is missing from water safety education targeted at ethnic and racial minority group members.

To summarize, research has suggested ethnic and racial minority group members with "different" beliefs, attitudes, and behaviors may be discouraged through

various means—including limited access to swimming infrastructure or unconscious institutional racism created by teaching approaches from being exposed to water safety skills. The identification of these forms of exclusion and discouragement might represent an important step to address disparities in exposure to water safety education, which might lead to decreased drowning risk among ethnic and racial minority populations.

Development and Delivery of Water Safety Education Messages

Having argued that different beliefs, attitudes, and behaviors about water-related activities and the acquisition of water safety skills may play a role in ethnic and racial minorities drowning risk, in this section we identify and describe commonly used strategies for enhancing the relevance and appropriateness of health interventions designed for different population subgroups. Specifically, we draw on the work of health communication experts (Kreuter, Lukwago, Bucholtz, Clark, & Sanders-Thompson, 2003) and provide examples to suggest how peripheral, evidential, linguistic, constituent involving, and sociocultural communication strategies can enhance the relevance and effectiveness of water-safety education targeted at ethnic and racial minority populations.

Peripheral Strategies

Peripheral strategies package risk messages in a way likely to appeal to a given group (Kreuter et al., 2003). In other words, the approach seeks to match communication materials, including colors, images, fonts, or declarative titles with the characteristics of a target population. By way of example, Water Safety New Zealand (2011) used video and representational images of Asian and Maori group members to produce a range of television commercials, brochures, and posters about water safety issues targeted at fisher people. Research conducted by Moran (2011) to explore if fishers had adopted preventative behaviors has suggested these strategies have resulted in some positive changes. The most significant change reported by Moran related to the use of lifejackets with 34% of fisher people in 2010 compared with 72% in 2006 reporting never wearing a lifejacket.

Other organizations, such as Surf Life Saving Australia (SLSA), have used images of ethnic and racial minority group members as lifesavers in an effort to change its image and recruit more members of ethnic and racial minority populations. As part of the “On the Same Wave” (OTSW)—a program to encourage culturally and linguistically diverse Australians to become part of the beach experience—the SLSA introduced in 2006 a modesty-saving swimsuit for Muslim women, nicknamed the “burqini,” that has been successfully used to persuade Muslim women to become lifesavers. These communication materials and channels were developed following focus group consultations with members of the target groups.

Evidential Strategies

Evidential strategies present evidence, often in the form of data, that a given problem affects members of a given group (Kreuter et al., 2003). According to Kreuter et al.

(2003) in most instances evidence takes the form of epidemiological or other data specific to the target audience. To illustrate, the Oscar Project (oscarproject.org), a United States organization based in Florida—a region with a large influx of Latin-American immigrants over the past 50 years—used statistics to communicate to parents the lack of safety training that many nannies from Latin American countries possessed. Consequently, the strategy has increased the number of parents who pay for nannies' CPR and first aid courses (Martinez, 2009). Similarly, the USA Swimming Foundation used evidence concerning the inverse correlation between swimming instruction and drowning to promote the "Make a Splash" initiative to African-American and Hispanic-American parents. The initiative, which offsets the costs of swimming lessons, has provided learn to swim opportunities to more than 1.5 million ethnic and racial minority children (USA Swimming, 2011).

Linguistic Strategies

Linguistic strategies make injury prevention education more accessible by providing programs and materials in the native language of the target group (Kreuter et al., 2003). Because language is fundamental to communication (Kreuter et al., 2003), translating water safety education materials from one language to another is a commonly-employed strategy in linguistically diverse countries. For example, in 2009 the Lifesaving Society of Canada translated information about "Swim to Survive"—a training program developed to teach essential skills to survive an unexpected fall into deep water, into 26 languages to educate people whose first language is not English or French about water safety. According to the Lifesaving Society of Canada (2010), language translation is having a positive impact on new Canadians: When presented with a "Swim to Survive" educational poster produced in their native language, 85% of new Canadians agreed they learned something helpful about water safety education they had not known before.

Researchers have shown that language translation facilitates water safety communication between immigrant parents and their children (Quan et al., 2006). Quan et al. (2006) reported that translating water safety information enabled Vietnamese-American parents whose first language is not English to comprehend the material. Indeed, organizations working to reduce drowning accidents among children in the southern regions of the United States (e.g., Oscar Project; Ounce of Prevention) have translated water safety education materials into the Spanish language to target Latin immigrant parents. As such, these data suggested translation of water safety messages should be geared toward parents and not children because the children are often well versed in the English language.

While cost effective, some researchers (e.g., Ito, 2008; Taylor-Clark et al., 2007) have suggested retaining consistent meaning and context in translated material is difficult. Taylor-Clark et al. (2007) suggested that using linguistic strategies alone could result in a situation where access is indeed enhanced, but to a program or service that is culturally inappropriate. In an exploration of ethnic and racial minorities' perceptions about access to and use of public health information in the United States, Taylor-Clark et al. reported that immigrant and nonnative English-speaking participants described feeling overwhelmed when sources use complicated language to describe health and environment issues. Hispanic participants indicated that the way health and environment communication was presented often gave rise

to awkward or inaccurate translations from English to Spanish (Taylor-Clark et al., 2007). Consequently, many Hispanic participants reported they often discontinued their search for health information (Taylor-Clark et al., 2007).

Certainly, visual graphics, statistical-based evidence, and language translation alone may not increase ethnic and racial minorities' comprehension of water safety information; indeed, there is a great deal of within-group variation that one communication strategy alone cannot address. Factors such as gender, income, educational level, place of residence in country of origin (rural or urban), and acculturation level can also greatly influence responsiveness to health and environmental risk messages (Lindell & Perry, 2004). Lindell and Perry (2004) suggested that when generating risk messages, the risk analyst should give careful consideration to the receiver's definition of the situation; that is, risk communication must take into account not only the role of the information source and the channel by which the information is transmitted, but also individual differences among those who receive the information. Thus, decisions in planning and carrying out culturally-relevant and appropriate risk message strategies should be done with the collaboration of target group members.

Constituent-Involving Strategies

Constituent-involving strategies seek the collaboration of target group members in the process of program and material development (Kreuter et al., 2003). Hence, the approach suggests members of target groups should be involved in the development and delivery of water safety education programs. Because participatory strategies provide a substantive role for community members in planning and decision making of education programs and risk message development, the approach can bring about more culturally-relevant and effective message strategies.

In a study that examined the effectiveness of risk communication among Indigenous communities, Zaloshnja et al. (2003) described a constituent-involving approach to water safety communication that was extremely successful. Zaloshnja et al. (2003) described how a culturally appropriate message suggested by tribal elders was effective in reducing deaths from drowning in a population of Alaska natives. Specifically, promotion of flotation jackets was framed in collectivist values: "wear a float jacket so that if you drown, people will not have to drag the river for your body" (Zaloshnja et al., 2003, p. 632). The emphasis was taken off the value of an individual's life; instead, the emphasis shifted to community members' time because community members had to spend portions of each year dragging the rivers for loved ones' bodies. Thus, the focus of the risk message was amplified toward avoiding community-wide upset. Following the campaign, drowning accidents on the river delta decreased by 53%, there was an annual economic cost savings of \$1.2 million (U.S. dollars, based on costs for recovery operations), and now virtually all community members wear "float coats" while on the river.

Constituent-involving strategies also play important roles in helping water safety programs to be culturally relevant. Baker and Giles (2008) examined aquatic programming in a predominantly Inuit community in Canada's North. The authors advocated for the benefits of dialogue between aquatic programmers and local residents before designing and implementing aquatics programs. They found that facilitating dialogue with potential program participants helped to ensure that the

programs reflect local culture. For example, in Inuit culture, Elders play important roles in conveying information about safety. Yet, most swimming programs use lifeguards and swimming instructors to teach information about water safety. Involving Elders in water safety communication was one of the constituent-involving strategies for which these authors advocated in terms of making water safety more meaningful and effective for local residents.

Participatory strategies can be used to promote an understanding and appreciation for cultural differences. For example, Surf Lifesaving South Australia developed "On the Same Wave," a community awareness program where consultation was held before a water safety program commencing to determine water-related issues that were of concern to affected ethnic communities. Developed as a partnership between the Department of Immigration and Citizenship and Surf Lifesaving South Australia, the program is aimed at culturally and linguistically diverse communities, especially new arrivals, and urges them to become surf lifesavers and to learn surf safety. Indeed, the program was originally developed following focus group consultations that found a very strong perception among young people that lifesaving was mainly for people from European backgrounds (Giles & Fitzgerald, 2007). Culturally and linguistically diverse individuals reported they did not join lifesaving programs because they did not feel welcome, did not believe they had the physical skills, and had limited time; despite a large number who said they would not become lifesavers, a large number indicated they would be interested in learning skills associated with lifesaving (Giles & Fitzgerald, 2007).

Sociocultural Strategies

Sociocultural strategies reflect an in-depth understanding of culturally normative practices and beliefs shared by the members of the targeted group (Kreuter et al., 2003). That is to say, careful attention must be given to culturally-specific conceptualizations of drowning and water safety if messages directed toward any target group are to be culturally meaningful and lead to desired behavioral changes. In this manner, a group's cultural values, beliefs, and behaviors are recognized, reinforced, and built upon to provide context and meaning to information and messages about health risks.

An interesting example that illustrated diverse attitudes and beliefs surrounding water safety was presented in Giles, Strachan, Stadig, and Baker's (2010) work that examined lifejacket usage in Tuktoyaktuk, Northwest Territories, Canada. The study identified several sociocultural factors that influenced the predominantly Aboriginal residents' decisions to wear lifejackets or personal flotation devices. Interestingly, the authors found that local residents' did not view the wearing of lifejackets as an effective method of preventing drowning (Giles et al., 2010). Instead, community members believed drowning accidents were affiliated with other factors such as being careless in preparation for the trip or "rushing" before going out on the water or ice. Lifejackets were believed by local residents to be ineffective because they believed it was the frigid temperatures of the water and ensuing hypothermia that would lead to fatality rather than an inability to stay at the water's surface (Giles et al., 2010). These attitudes and beliefs about the lack of effectiveness and usefulness of lifejackets were important to consider when creating and evaluating drowning prevention programs.

One relevant sociocultural aspect to consider is differences in family role obligations attributed to cultural values. Researchers have suggested that presenting swimming instruction and water safety information to families as opposed to individual registrants may be an effective communication strategy to reach immigrants from collectivist cultures (Mull, Agran, Winn, & Anderson, 2001; Quan et al., 2006). For example, Vietnamese-American parents in Quan et al.'s (2006) study suggested that swimming classes with similar Vietnamese peers, and in particular opportunities for Vietnamese families to participate together, would entice more members of their ethnic community to learn how to swim. Hence, these data suggest that water safety education should in some instances be geared toward groups.

Promising Practices

Based on the research presented above, we have identified four promising practices in enhancing the relevance and effectiveness of water safety education programs for ethnic and racial minorities. We outline these promising practices and their importance in the next section.

The development of water safety education programs should begin with an understanding of culturally normative practices and beliefs. Visual graphics, statistically-based evidence, and translated material may be used to effectively communicate water safety messages to ethnic and racial minority populations; however, the literature suggests that these approaches will be more effective if they reflect an in-depth understanding of the target groups' cultural beliefs, attitudes, and behaviors. For example, policymakers and programmers should identify whether members of the target group identify as being from a collectivist or individualistic culture. Once this information is ascertained, it may help to produce more relevant water safety messages and programs. For example, swimming lessons could be offered to families or groups instead of individuals, and thereby enable children, parents, and grandparents to jointly partake in water safety instruction.

Give members of target groups a voice and role in the planning and development of water safety education programs. Cultural sensitivity begins with the understanding of cultural differences, which we suggest can be accomplished through participatory approaches. As we illustrated above, community consultations and opportunities for target group members' input can produce insights that can enhance the relevance and appropriateness of water safety education communication initiatives and programs. Moreover, participatory approaches can also be used as a platform to alter the normative framework of water safety education. Indeed, organizations promoting water safety should not only seek to learn more about how to produce culturally-appropriate communication strategies, but also look for opportunities to transform the way they operate.

Offer vital water safety education to newcomers while enabling them to learn more About popular recreational water activities. Newcomers to Western countries, particularly those who originate from non-Western cultures and societies, may not have had opportunities for learning-to-swim and other water-related recreational activities in their country of origin. As a result, water safety education that is targeted at newcomers should also include introductions to popular recreational water activities and the settings in which they occur, so that water-based activities are not considered "native-born" activities.

Recruit and retain more ethnic and racial minority group members to become lifeguards, swimming instructors, and programming administrators. Steps need to be taken not only to recruit but also retain ethnic and racial minorities within the aquatics profession. Depending on the cultural practices and beliefs of some ethnic and racial minority groups, changes may be needed to uniforms, to the ways in which water safety education is carried out, or to the way that water activities and water safety are promoted and communicated in the media and in water education settings. Merely engaging in more of the same practices will not result in the changes that are needed to make water safety education and professional aquatic employment accessible and more effective for all potential participants.

Conclusion

In this paper, we examined existing data pertaining to ethnic and racial minorities' drowning rates and argued that they may be related to a failure to engage with non-Eurocentric beliefs, attitudes, and behaviors, lack of swimming skills, and social exclusion. We then provided an overview of health communication strategies and provided real-life examples of these strategies at work in water safety education. Finally, we identified four overarching promising practices to enhance the relevance and effectiveness of water education programs targeted at ethnic and cultural minorities.

There is currently a significant and growing body of information pertaining to the ways in which culture interacts with individuals' water-related practices. If we are to be more successful in creating programs and policies that better meet the needs of all members of society, this knowledge must be translated into evidence-based approaches that fundamentally change some aspects of the ways in which water safety education programs are designed and delivered. Thus, the issue is not simply getting messages of water safety out to more people; instead it is that we need to change the *content/approach* of water safety so that it is more reflective of cultural diversity.

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