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Swimming and Gendered Vulnerabilities: Evidence from the Northern and Central Philippines

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Abstract

Men and women's vulnerability to disasters is different and often related, in part, to cultural norms that influence gendered behaviors and abilities. In this study we focus on gender differences in swimming abilities, which, in the case of tsunamis have resulted in far greater female mortality rates. We present results on swimming ability by gender for 940 residents of coastal rural communities in the northern and central Philippines. We also examine cross-generational transmission of swimming abilities to shed light on future vulnerability. Results reveal men are far more likely than women to swim and, importantly, parents who can swim are more likely to have children who can swim. In this way, differences in swimming ability among today's adults may perpetuate vulnerabilities within future generations.

Keywords

climate change; drowning; gender; disasters; swimming; Philippines; vulnerability

Introduction

Drowning is the third leading cause of unintentional death worldwide and the geography of drowning illustrates disproportionate burden -- 96% of drowning deaths occur in low- and middle-income countries (WHO 2012). Although not all drowning is related to swimming ability, studies have shown that swimming lessons reduce the risk of drowning especially among young children (Brenner et al. 2009). Disasters such as typhoons and floods increase drowning risk, particularly in low-income places with population concentrations in flood plains or coastal zones and limited public health infrastructure (Haines et al. 2006). Climate

change and the anticipated increase in extreme weather events may exacerbate drowning as a public health concern.

Human vulnerability and response within extreme weather events are gendered (Hunter and David 2011). Differences in vulnerability by gender are often partly because of cultural norms for behaviors such as swimming. For example, in the recent Bangladesh and Indonesian tsunamis, far greater female mortality rates were related to cultural norms making it less likely that young girls learn to swim (Demetriades and Esplen 2008).

This brief examines swimming ability by gender for residents of rural communities in the Philippines. We also examine cross-generational transmission of swimming ability to understand future vulnerability. Sadly, after this study was done, Typhoon Haiyan devastated the Philippines in November 2013, resulting in over 6,000 deaths, tragically demonstrating the island nation's intense vulnerability to weather extremes.

Background

Gendered vulnerability to drowning differs in non-disaster and disaster contexts. In low-income settings children, particularly young males have been found to be more likely to be victims of unintentional drowning, in a variety of cultural contexts. Most deaths occur relatively close to home and reflect risks within regular daily routines (e.g. Kiakalayeh et al. 2008). By contrast disasters lower the life expectancy of women more than that of men—predominantly because of everyday lower socioeconomic status of women in many low-income cultural contexts (Neumayer and Plumper 2007).

Women's increased vulnerability to drowning in water disasters is linked to cultural norms inhibiting their swimming ability. With a focus on cyclones and tidal surges in Bangladesh, Alam and Collins (2010) argue that women's greater risk of drowning is in part because cultural norms for women to have long hair and wear saris that hinder swimming. The social expectation that women look after children and the elderly may also restrict women's self-rescue efforts since they may tend to others first (Schowobel and Menon 2004). And finally, social prejudice against women's learning to swim drastically reduces their survival chances in flooding (Cannon 2000). In the devastating 2004 tsunami in Southeast Asia adult women died at higher rates than men -- up to 10 percentage points higher among young adults (Frankenberg et al. 2011). In this region, due to cultural norms, boys and men are more likely to learn tree-climbing and swimming (Oxfam International 2005).

Yet, there is little empirical documentation of gender distinctions in swimming ability and hence gender differences in water-related vulnerabilities. Also not examined is the cross-generational transmission of swimming knowledge and ability, an important component of vulnerability since parents who swim may be more likely to have children who swim—and children who can swim are less vulnerable to drowning (Das and Dey 2011; Rahman et al. 2008).

Data and Methods

The study setting consists of 29 coastal municipalities in two bioregions in Southern Luzon and the Visayas area, the Verde Island Passage, and Danajon Bank, Philippines. Data were collected as part of a project on population health and coastal resource management approaches (Population-Health-Environment, PHE). The project -- which tends to attract more female than male participants -- aims to increase resilience in rural coastal communities with high population growth and increasing exploitation and degradation of coastal ecosystems which provide critical food and livelihood resources.

The 940 respondents (796 women and 144 men) were community volunteers and participants in the series of PHE community-based peer education training sessions conducted by PATH Foundation Philippines. Although women are overrepresented in the sample, a diverse range of occupational backgrounds and experiences were represented including village health workers, nutrition scholars, fish wardens and local governmental officials. Others were owners of small family convenience stores, operators of community drug outlets, cooperatives, and members of fisher folk organizations. The modal age category was late 30s. The respondents are not representative of coastal municipalities' residents in general, and swimming levels reported by these engaged and active citizens may overestimate swimming as compared to the population.

Before the training sessions', participants were given a questionnaire that included questions on swimming. The survey instrument was developed to shed light upon, advocate, and develop life-skills education and training, including swimming. We present both descriptive patterns and bivariate percentages reflecting gender distinctions in swimming ability, cross-generational learning, and drowning vulnerability.ⁱ

Results

There is substantial gender variation in swimming ability with 87% of men reporting swimming skills but only 51% of women – and swimmers tend to be younger (in their 30s) compared to non-swimmers (Table 1). It might be assumed that women would tend to be less vulnerable to drowning given male domination of the offshore fishing industry. Yet, the Philippines is a sea-faring nation, and both women and men express high levels of boating (6 and 8 times in the past month respectively). Nearly 40% of women who noted boating experience in the past month could not swim, as compared to 13% of men.

With regard to children, the percentage of boys who can swim (76%) was higher than girls (62%), although, among swimmers, boys and girls learned at a similar age -- about 8 years. In households with both boys and girls, most often both genders could swim (58%) but in 20% of households, boys could swim while girls could not. The reverse was true in only 5% of households.

On intergenerational transmission of swimming knowledge, as anticipated, both mothers and fathers who could swim were more likely to have children who could swim. Overall, 48% of

ⁱGiven the non-random sample, we do not undertake statistical tests.

mothers could swim, and 82% of fathers. As demonstrated in Figure 1, the children of parents with swimming ability are more likely to have swimming skills themselves. Sons of fathers that lack swimming ability appear particularly disadvantaged, as less than 40% of these youth can swim.

Within the family, fathers are primarily responsible for teaching children to swim, with approximately 40% of swimming children learning from their fathers. In fact, daughters learned swimming from their mothers only 11% of the time, and sons only six percent. About 45% of respondents noted “others” taught their children to swim – including extended relatives and/or friends. On formal learning opportunities, most mothers do not know of any local organizations that offer swimming lessons (only 5%) although mothers who knew of such local organizations were much more likely to have children, and especially girls who swim.

In all, our results suggest parental swimming ability is important in intergenerational transmission of swimming for both boys and girls. In this way, encouraging formal or informal swimming lessons among today's youth may translate into reduced vulnerability across future generations.

Conclusion

Empirical data documenting gender differences in swimming ability are rare, although studies have revealed gendered differences in drowning. In addition, little is known about cross-generational transmission of swimming ability. This brief begins to fill these two voids.

We find less swimming ability among adult women as compared to men in the Philippines study regions. However, parents who could swim are more likely to have children that could swim. In this way, differences in swimming ability among today's adults may perpetuate vulnerabilities within future generations. As to future research, a large-scale random sample survey on this topic, and including data collection on gender attitudes and equality, would be invaluable for informing policies and programs. Better understanding of these associations is critically important for advocacy efforts aimed to enhance swimming skills, particularly in settings vulnerable to weather extremes such as the rural Philippines.

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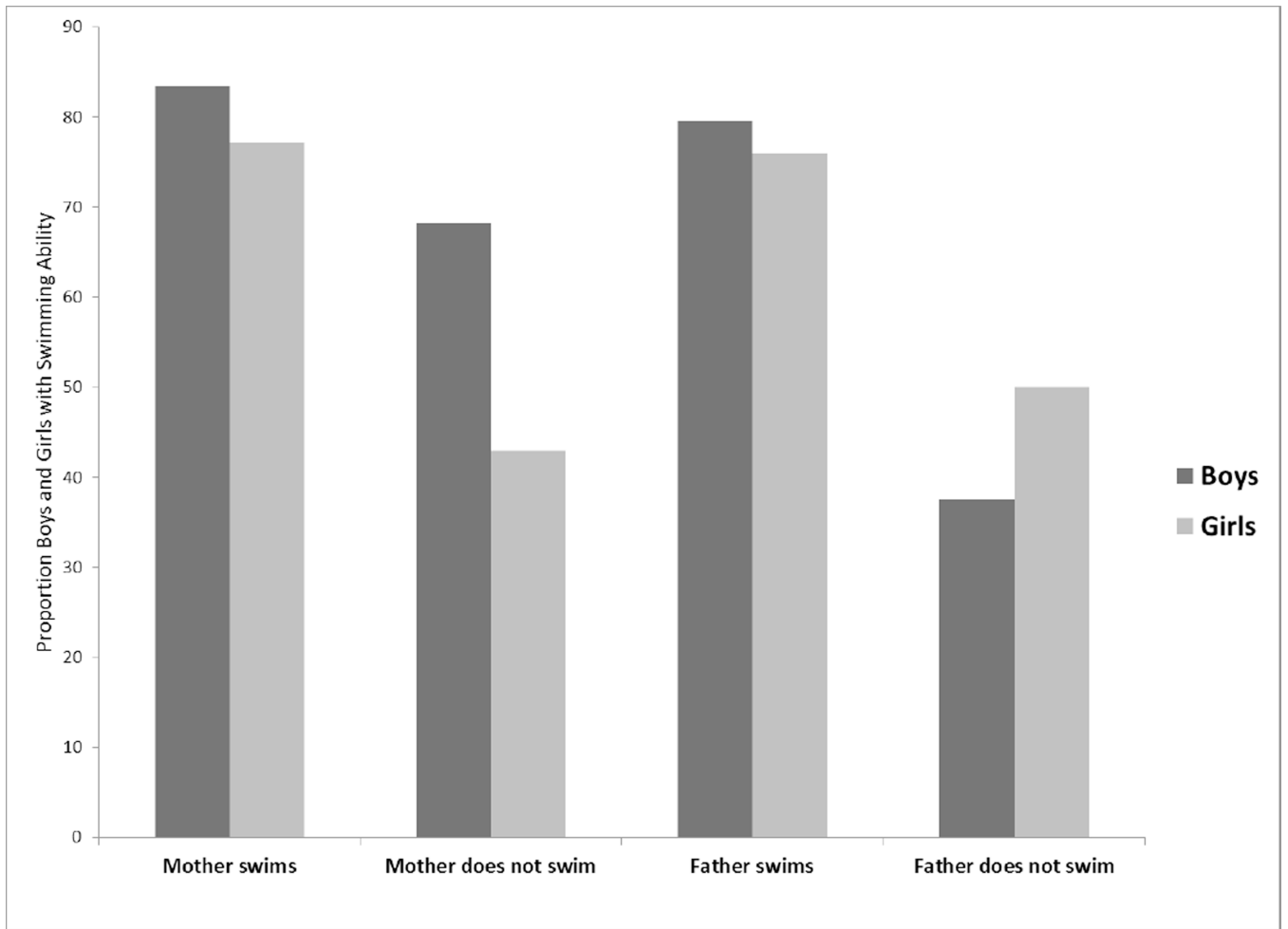


Figure 1. Boys and Girls Swimming Ability, by Mother's and Father's Swimming Ability

Table 1

Descriptive Statistics

	% or Mean	Total N
Know how to swim? (% yes)		
Women: know how to swim?	51.2	774
Men: know how to swim?	86.5	141
If have daughters, do girls know how to swim? (% yes)	62.4	724
Girls learned at what age?	8.3	388
If have sons, do boys know how to swim? (% yes)	76.1	542
Boys learned at what age?	8.5	454
Any drowning deaths in family? (% yes)	11.6	696
Know of organization offering swimming lessons? (% yes)	5	437
How often ride in a boat last month?	6.2	168
Did boat have life-saving equipment? (% yes)	50.1	168
Number of Children		
Number of Girls	1.6	940
Number of Boys	1.8	940
Respondent Age		
15–24 years	2.6	24
25–30 years	8.8	83
31–35 years	13.2	122
36–40 years	16	148
41–45 years	15.2	140
46–50 years	15.6	144
51–55 years	13.2	122
56 years+	15.3	141