

The 'Can You Swim?' Project: An international feasibility study of real and perceived swimming competency in the context of drowning prevention

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Background

The role of swimming ability in drowning prevention is arguably one of the most persistently problematic relationships in water safety education. While many argue that the value of swimming in preventing death by drowning is axiomatic, others suggest that the protective effect of being able to swim might be offset by the increased exposure to aquatic risk inherent in utilising that skill. Defining exactly what is meant by being able to swim in the context of drowning prevention has proven to be equally as elusive. Furthermore, overestimation of swimming ability and underestimation of risk of drowning has been well reported in the literature, especially among males. This international collaborative feasibility study set out to explore 'real' swimming competencies and compare results obtained in practical tests with participants 'perceived' ideas of their swimming competency.

Method

Prior to the start of academic studies, students enrolled in Physical Education programmes completed a questionnaire seeking self-estimates of their competency in seven water-based activities (such as floating and distance swimming competency). Subjects were then physically tested in the seven water-based activities. After initial discussion about test protocols, the first phase of the study was implemented in the University of Auckland, New Zealand (n=68) in February, 2008. The second phase of the study was implemented at the Norwegian School of Sports Science in Oslo, Norway (n=81), in September 2008. The third phase of the study took place at University of Ballarat, Australia (n=111) in March 2009. The fourth phase of the study took place in three institutions in Japan (n=113) during June – July 2009. A combined total of 373 young adult students of Physical Education took part in the study.

Results

As was to be expected, most of the students demonstrated good swimming skills with most being able to swim >400meters non-stop (n=282; 76.4%) and swim 100m on their backs (n=237;66.2%). Proportionally fewer students could float for 15 minutes (n=144; 39.9%) and more than one third could not stay afloat for more than two minutes (n=127; 35.2%). Correlations between these skills and student self-estimates of their competency, while statistically significant at the 1% level (2-tailed), (swimming, $p = .369$; floating, $p = .583$ and back stroke swim, $p = .191$), were not as strong as had been expected with students tending to underestimate their swimming competencies. No significant gender differences in either real or perceived swimming competency were found. Some significant gender differences were evident when students were asked to describe their level of confidence in being able to do the activities in open water with more females than males likely to have concerns about diving headfirst into the deep end of a pool ($p = .029$), perform a surface dive to a depth of 2 m ($p = .058$), and perform a rescue tow ($p = .002$).

Discussion

As was to be expected from a cohort selected for programmes where aquatic activities were an ongoing part of their professional development, most students had a sound aquatic skill base. Overall, student tended to underestimate their swimming competency and perform better than expected in the actual tests, though national differences were evident. No significant gender differences were found in self-estimated or actual swimming competencies. The implications of these findings on drowning prevention and the need for further investigation are discussed.

Conclusion

This is the first study of its kind that attempts to relate perceived swimming competency with real swimming competency among an age group that are generally identified as at high risk of drowning. Further investigation using similar methodology is required to determine whether these findings would be replicated in other populations (without a background in physical education).

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