

DIVING OUR WAY TO EMPATHY



Joseph A. Hoyle, Medical Student, TCU Burnett School of Medicine
Erin Nelson, Psy. D., Assistant Dean, TCU Burnett School of Medicine

RESEARCH QUESTION

In certified scuba divers who obtain standardized empathy training in July 2023 through Adaptable Scuba, is there an objective increase in empathy as measured by the Perth Empathy Scale?

In certified scuba divers who are enrolled in the HSA Adaptive Dive Buddy training course, is there a statistically significant difference in baseline empathy compared to the general population, as reported by the Perth Empathy Scale?

BACKGROUND

SCUBA has historically been considered an extreme sport reserved only for risk-takers and physical specimens. The Handicapped Scuba Association (HSA) has challenged this narrative since its founding by Jim Gatacre in 1981. The HSA brings the sport of SCUBA to those of all abilities with training programs for people with disabilities and their able-bodied buddies. The adaptive buddy training, standardized on an international scale, consists of four days of intensive above- and below-water training. Beyond the technical skill of assisting disabled divers, the training is renowned for its approach to empathy. HSA empathy training includes OSHA and international accessibility standards, wheelchair-bound and blind exercises, and paraplegic and quadriplegic underwater maneuvers. Through these experiential simulation scenarios buddies learn to dive and solve problems differently, developing new skills that are needed to safely scuba dive with divers with disabilities. HSA simulation drills are a cornerstone of HSA training and are required to achieve certification.

Empathy, and the ability to teach and improve this skill, is a core tenet of the Anne Burnett Marion School of Medicine at Texas Christian University. Empathy training is becoming mainstream in medical education, and insights into practices that objectively increase empathy could help further develop and inform these curricula in medical education.

METHODS

We partnered with a local branch of the HSA, a non-profit in DFW called Adaptable Scuba. Adaptable Scuba trains several groups of adaptive buddies every year according to HSA's international standards.

The research question was explored using a pre- and post-intervention self-reported survey. Prior to beginning training, participants took a "baseline" survey. After successful completion of the HSA training, participants again reported their experiences on the survey. The Perth Empathy Scale (PES) was employed to objectively measure empathy scores over the course of training.

Is it possible to intentionally increase empathy?
How do we objectively assess these interventions?
How long would an improvement persist, and what tangible effects might we observe?



Link to project website and copy of final thesis

RESULTS

After one cohort of adaptive dive buddy candidates, we found no significant difference in baseline empathy and no significant changes in empathy as measured by the PES in any category, sub-category, or aggregate after the intervention.

	Mean	Standard Deviation
Negative-Cognitive Empathy	20	2.65
Positive-Cognitive Empathy	20.5	2.76
Negative-Affective Empathy	12.4	4.2
Positive-Affective Empathy	18.6	3.3
Combined Cognitive Empathy	40.4	5.3
Combined-Affective Empathy	31	7.3
Empathy (total)	71.4	8.3

Table 1: Pre-intervention (baseline) values

	Mean	Standard Deviation
Negative-Cognitive Empathy	17.2	1.1
Positive-Cognitive Empathy	18.8	3
Negative-Affective Empathy	11.6	3.4
Positive-Affective Empathy	17.8	5.5
Combined Cognitive Empathy	36	3.7
Combined Affective Empathy	29.2	8
Empathy (total)	65.2	10.8

Table 2: Post-intervention values

FUTURE DIRECTIONS

We are excited for future directions that are possible for this project. One direction is to try the same scale with a new cohort and check for any discrepancies between the two cohorts. Due to our eventual goal, we may also consider using an alternate scale such as the Jefferson Scale of Empathy. We are considering the feasibility of writing our own empathy scale for those specifically who work with at-risk populations, as it may be of more use to us and others exploring these specific questions.

We would like to set the training against a control with a similar time commitment and intensity, such as a basic Open Water certification course.

One goal is to accurately evaluate the impact of the HSA Adaptive Buddy training program on the empathy of the individual. We are committed to this goal because we would like to add to the body of literature that supports and validates empathy as a skill that can be improved upon. We also realize the need to evaluate empathy training in the medical field, such as the training in The Anne Burnett Marion School of Medicine's Preparation for Practice curriculum.

ACKNOWLEDGEMENTS

First, to my dive buddy, thanks for always having my back.
To the folks at Adaptable Scuba – Thank you for welcoming me as a volunteer and as a friend.
Finally, a sincere "thank you" to Dean Erin Nelson, PsyD, without whom this thesis would not be possible.