

Participants: Thirteen coaches from the United States (nine male, four female) with a mean age of 61.2 years ($SD = 10.0$) and a mean coaching experience of 31.7 years ($SD = 8.9$) participated in this study. Ten participants coached swim teams competing in National Collegiate Athletic Association (NCAA); these participants came from all three collegiate divisions (I, II and III). One participant coached as both an NCAA coach and a club coach. The remaining two participants coached senior level club swimmers for USA Swimming affiliated clubs. Five coaches had retired within the past three years. All participants had coached swimmers at the national level (collegiate and/or club), and ten had coached at least one swimmer at the world championship level. Four coaches had been appointed at least once to coach for the USA national swim team. Four coaches had won at least one NCAA team championship and nine coaches had achieved at least one NCAA team finish at tenth place or higher.

Findings: This study had two purposes. The first was to identify the attributes of mentally tough swimmers, and the second was to uncover the ways in which swimmers become mentally tough. The first part of the study used a framework of mental toughness attributes developed in 2007¹, and this study backed-up this framework and uncovered two new sets of attributes that will be examined in future studies. The framework structures the thoughts and actions of mentally tough athletes into four categories: an overall tough attitude or tough mindset, and then specific thoughts and actions during training, competition, and post-competition. The findings from this study were categorized into this framework. According to the participants in this study, mentally tough swimmers demonstrated the following elements:

Attitude/Mindset	Training	Competition	Post-Competition
<ul style="list-style-type: none"> o Strong Self-Belief. Demonstrated a strong belief that they would succeed, that their sacrifices would pay off, and that they could handle setbacks. o Strong Focus. Dedicated to their swimming goals, but also knew how to switch their focus between swimming and life. o Coachability. This was a new element identified in this study. Coachable athletes bought in to the team philosophy, developed a partnership with the coach, had a willingness to trust the assistance and advice of coaches, and had the maturity to handle adversity. 	<ul style="list-style-type: none"> o Motivated by long term goals. A vision of long-term success justified the need for relentless effort o Control the training environment. Mentally tough swimmers “produced quality” in all workouts by training race elements that a coach may not always demand (e.g., underwater dolphin kicking) o Push themselves to their physical limits. Consistent and relentless in training; could train hard by racing teammates or “with only the pace clock for a teammate.” o Retain psychological control on poor training days. This element was identified by this study, and was similar to controlling the environment during training. Mentally tough swimmers could make progress towards swimming goals when they weren’t functioning at peak physical capacity (during high training volumes), and could find some aspect of their swimming that they could improve on poor training days. 	<ul style="list-style-type: none"> o Strong Self-Belief. Trusted their training and relied upon their unique skills and strategies during big meets. o Stay focused. Mentally tough swimmers typically used well-rehearsed routines to prepare for competition. Swimmers might focus on the process of the race, or might focus on being in the moment and “just racing.” o Regulate performance. Mentally tough swimmers could step up when the situation demanded it the most; could always “produce” at just the right moment. o Handle pressure. Able to adapt to change, threat, or distraction. Didn’t think about possible negative outcomes, could channel anxiety, and embraced opportunities to compete. 	<ul style="list-style-type: none"> o Handle failure appropriately. Could bounce back after a poor race; was able to learn from poor races or mistakes; could use failure to drive future effort in training. o Handle success appropriately. Experienced self-satisfaction after good races, didn’t need adulation of peers/coaches; enjoyed successful performance, didn’t try to figure out how it could have been better.

¹ Jones, G., Hanton, S., & Connaughton, D. (2007). A framework of mental toughness in the world’s best performers. *The Sport Psychologist*, 21(2), 243–264.

Findings (cont'd): Part two of the study attempted to uncover the ways in which swimmers become mentally tough. The participants in this study indicated two main avenues by which swimmers become mentally tough: there were specific actions that coaches took to build mental toughness in their swimmers, and there were specific actions that swimmers undertook, on their own, that built their mental toughness.

Actions taken by coaches to develop mental toughness

- o **The coach was challenging and demanding and had high expectations.** The coach was relentless in challenging swimmers and held swimmers accountable by demanding their best efforts. Used get out swims occasionally to create emotionally demanding situations in practice. Found ways to challenge swimmers that were more than just physical training. Built a strong rapport with athletes, which enabled the coach to get a sense of how hard the athlete was working, and conversely, if workouts were leading to overtraining.
- o **The coach's approach to training and workout planning developed mental toughness.** Workouts had a clear purpose, and coaches communicated this purpose to the swimmers. Variety wasn't seen as essential but was thought to help the development of mental toughness. Some workouts had to cause swimmers to fail; but coaches helped swimmers develop mental toughness when they explained the purpose of failure and gave swimmers a chance to come back and demonstrate success. Coaches carefully planned workouts designed to induce failure (such as when they appeared in the training cycle).
- o **The coach developed a motivational climate that fostered mental toughness.** The coach used a formal motivational system that rewarded the swimmer exceeding expectations during training. If the coach did not use a formal motivational system, he or she informally gave praise and recognition for high levels of effort, for demonstrating tough-minded behaviors, such as striving to achieve practice goals, or staying emotionally cool during a challenging workout.

Actions taken by swimmers to develop mental toughness

- o **The swimmer prepared methodically and rigorously.** Prepared deliberately by thinking through each practice set before beginning. Understood the coach's rationale for a training set. Sought multiple sources of coach feedback (e.g., using all assistant coaches and guest coaches, seeking videotape analysis). Executed difficult training consistently with a high level of proficiency.
- o **The swimmer used psychological skills and cognitive strategies.** Swimmers used imagery to prepare for competition during most practices; this process turned practice into "rehearsal" for competition, as opposed to just "training." Swimmers used effective mid-range goal setting to move towards a long-term goal.
- o **The swimmer had experienced and overcame hardship in the sport.** Meeting and overcoming hardship in the sport built confidence that the swimmer could overcome future hardships, should they arise. They learned how to interpret failure and see challenge as a way to test their abilities.

Implications: For coaches, the development of a motivational climate that rewards and praises exceptional effort during training helps to build mental toughness. Training should have a clear purpose to the swimmers and should relate to goals they are trying to achieve in their races. Swimmers should be taught how to take ownership of their swimming. Swimmers must learn how to appraise their performances – learn to evaluate without emotion – and a coach's debrief session would help with this process.

Future Research Directions: "Coachability," and how an effective coach-athlete relationship impacts the development of mental toughness, will be examined in a future study with swimmers and coaches. Interviews with swimmers and parents will help to determine the exact mechanisms of how a swimmer becomes mentally tough when faced with tough situations (e.g., tough practices, high-level competition). Sport psychologists and coaches believe that motivational climate shapes swimmer mental toughness, but interviews with swimmers would give a better sense of how it actually shapes mental toughness. Another direction would be to determine effective methods that coaches could use to teach swimmers how to take ownership of their swimming.