Quiet Eye: Anxiety and Attention

"Choking" under pressure describes a pressure-performance situation where the athlete performs significantly worse than expected--unexpectedly well-below their average skills-mastery level (Oudejans, Kuijpers, Kooijman, & Bakker, 2011). Distraction theories suggest that attention shifts from the task-execution to distracting thoughts, worries, and negative self-talk (e.g. inner dialogue) thus detracting from the performance (Oudejans et al., 2011). An athlete may become distracted due to anxiety, perceived stress, perceived challenge-skill balance, and/or poor coping skills among other psychological skills. Researchers generally accept anxiety's mediating role in attentional disruptions (Wood & Wilson, 2012). Such anxiety-oriented attentional disruptions have been shown in research to relate to quiet eye (QE) (Vine, Lee, Moore, & Wilson, 2013).

Quiet eye (QE) is a gaze control strategy employed by athletes of expertise (elite or demonstrating high-level skills-mastery) and indicative of superior performances in a wide variety of motor tasks (Moore, Vine, Cooke, Ring, & Wilson, 2012; Vine, Moore, & Wilson, 2014). QE is defined as the final fixation/tracking gaze directed to a location/object/target before initiation of a [critical phase of] movement or motor-response (e.g. shooting basketball) (Moore et al., 2012; Vine & Wilson, 2010; Vine et al., 2014; Wood & Wilson, 2012).

Experienced athletes (expert-level) have been found to attain QE earlier and be able to maintain longer quiet eye durations or QED when necessary as compared to less-skilled athletes (Vine et al., 2014). Also, when either an expert or less-skilled athlete "missed", QED was found to be shorter than the athletes' normal duration in aiming/interceptive tasks--simulated archery, shotgun shooting, dart throwing, basketball free-throws, golf putting, and soccer penalty shooting (Vine & Wilson, 2010; Vine et al., 2013; Vine et al., 2014).

Vine et al. (2013) studied 50 right-handed expert golfers as they putted from a distance of 5 feet to a regulation hole on artificial turf. Mobile Eye Tracker and Eyevision technology tracked and recorded the golfers' momentary gaze (Vine et al., 2013). The participants received an orientation and technology-fitting session, along with time to practice putting (Vine et al., 2013). The golfers then participated in a shootout holing task--land as many balls as possible from a distance of 5 feet without missing (Vine et al., 2013). To increase the performance pressure even more, a cash prize of 50 British pounds would be given to the winner; and an experimenter told the golfers that their 20 practice putts put them in the bottom 30% plus the scores would be publically published (Vine et al., 2013). Golfers completed the Mental Readiness Form 3 (for anxiety) before putting and after a missed putt (Vine et al., 2013). Vine et al. (2013) found that QED was shorter than normal for missed putts (choke was associated with a decrease in visual attentional control) at the time of the failure.

Fortunately, it seems that QE (regarding refining performance, skill acquisition) may be trained (Vine et al., 2014). Such training may involve guiding the athlete when and where to fixate their gaze (and look for areas of interest, visual cues); video modeling and verbal feedback have successfully helped athletes improve (Vine et al., 2014). Vine et al. (2014) noted that due to the sensitivity of QE resulting from anxiety-changes, QE may be an useful index of optimal attentional control. QE may also help in "maintaining effective goal-driven attentional control,

while reducing the impact of the stimulus-driven attentional system" (Vine et al., 2014, p. 238). Quiet eye, attention, and anxiety are important not only to athletes, but also to law-enforcement and the military. Further research is needed to pin-point effective training protocols.

References

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