

# Perceptual Anticipation in a Shoot/Don't Shoot Task

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Signal Detection Theory (SDT) has been applied to examine expertise-related differences in perceptual judgments of deceptive and non-deceptive movements in sport (e.g., handball, soccer). Deceptive actions in sport-related tasks (i.e., faking in rugby, fake passes in basketball) affects anticipation performance in both novice and expert athletes (i.e., more incorrect responses in deceptive actions compared to incorrect responses in non-deceptive actions); however, experts still outperform novices when facing deceptive actions in sport-related tasks (Güldenpenning, Kunde, & Weigelt, 2017). To date, this approach has not yet been applied to shoot/don't shoot scenarios in law enforcement. To address this issue, we filmed actors pulling out either a weapon (i.e., gun) or a non-weapon (i.e., cell phone). We then edited the videos to create temporally-occluded stimuli. College students observed the videos and indicated whether the object was a weapon or a non-weapon. We conducted two experiments: across both we found that participants' responses were more likely to be correct at later occlusion points, when the object was fully observable. We also found that when the object was fully observable, participants were more likely to identify the object as a gun rather than a cell phone. The results can inform the design of decision-making training for police.