

Baseball study eyes thin line between prospects and major leaguers

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Researchers from Murdoch University have found that batters in American professional Major League Baseball (MLB) and the high minor leagues are 13-15 per cent better at predicting a pitch before its release as compared to low minor leaguers.

While this seems like a small difference, researchers Dr Sean Muller and Christopher Moore said understanding subtle differences when elite players picked up [visual cues](#) during a pitcher's delivery could make the difference between a prospect reaching his potential or never making a major league roster.

In the study, players viewed footage of pitchers throwing fastballs,

curveballs and change-ups and were asked to predict the [pitch](#) when footage was stopped at three different stages of delivery: front-foot landing; shoulders square to the batter; and at ball release.

At front-foot impact, MLB and high-A players predicted at 70 per cent accuracy, while A-level batters and professionals from the Australian Baseball League predicted accurately at 57 per cent.

When footage included ball release, MLB and high-A players predicted at 75 per cent accuracy while A-level and Australian Baseball League players predicted at 60 per cent accuracy.

A group of non-professionals managed to identify the pitches at only 32 per cent accuracy.

"A batter facing a 90 mile-per-hour fastball has approximately 500 milliseconds to respond after it leaves the pitcher's hand, which isn't enough time for the brain to gather sufficient information to anticipate pitch type," Dr Muller said.

"An explanation as to why hitting is possible is that professional batters can use early [visual information](#) from the pitcher's action to anticipate the pitch, even if that process is sub-conscious."

Dr Muller said his group were currently running visual occlusion tests (blocking vision) in live batting practice to better understand how players successfully strike or lay off a pitch.

"Coaches could use our video-based occlusion to test their players' capabilities to anticipate pitch types and to train pitch anticipation," he said.

He added that he would be keen to partner with an MLB team to expand

the program and felt confident that his research could be an added weapon to coaching.

"Discovering the subtle cues that make up that 13-15 per cent difference between elite and near-elite players could make a huge difference to batting averages and coaching [players](#)," Dr Muller said.

More information: www.tandfonline.com/doi/full/10.1080/17470218.2013.798003

Provided by Murdoch University

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