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*It's a Kick*

The purpose of this investigation was to explore how the different movements in the body of a soccer player (upper body, plant foot) affected the distance (m) and loft (m) of a ball being kicked. I hypothesized that to get the greatest loft a player should have their plant foot placed behind the soccer ball, and lean backwards with the upper body; to get the most distance a soccer player should use a centered plant foot and lean slightly forward above the ball.

This experiment involved testing both the plant foot (front, centered, back) and upper body (forward, backward) to see which positions improved the distance (m) and loft (m) of the ball being kicked. Distance was tested on a football field where the human subject would kick the ball, and then the distance between where the ball was kicked and where it ended up was recorded and converted to meters. Loft was tested with cardboard in precise measurements on a string up the field goal net, counting in meters. The human subject would kick the ball and was filmed from behind. The video was consulted and it was recorded where the soccer ball was at the peak of flight.

The data collected partially supports the original hypothesis. The best average kicking distance was the plant foot centered to the ball, which was 44.43 meters. The best average for upper body is leaning forward with the upper body is 45.07 meters. The best average for loft was 2.22 meters and the plant foot centered, and the average for leaning forward with the upper body was 1.92 meters.

These findings lead me to conclude that the best result for distance is a centered plant foot and the upper body leaning forward, slightly over the ball. For the best loft, I have concluded that a centered plant foot and leaning forward slightly produces the best results.