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## *A CASE STUDY OF A PATHOLOGICAL GAMBLER WAGERING AT GOLF*

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The present single case design explored the degree to which a pathological gambler's golf performance would be affected by monetary consequences. Using an AB design, a twenty-three year old pathological gambler initially hit 10 golf balls on a computerized golfing game that interfaced with Playstation2's "Tiger Woods PGA Tour 2006". Following baseline, the participant was informed that he would be paid 20 dollars if his next 10 swings were closer to the golf hole than the prior 10 swings. The introduction of the monetary consequences resulted in the participant increasing shot variability and decreasing shot accuracy.

*Keywords: gambling, wagering, golf, choke response*

Wagering takes place in many contexts outside of the typical casino. Gamblers often wager on many activities from racing cars, finishing highest on a test, acquiring a bar patron's phone number, and performance at sporting events. One sport well known to occasion gambling is that of golf (Smith & Paley, 2001). While celebrity golfers often draw the headlines of newspapers and television (Leahy, 2004), other less known golfers share the same tendency to wager during play. Bets may be made on overall course play, single holes, execution of a particular shot, or any combination thereof.

When the stakes are high, often times athletic performance suffers. In the sport psychology literature, "choking" is frequently attributed to athletes who report substandard performance under pressure to do well (Lewis & Linder, 1997). Understanding the autonomic nervous system and the associated

physiological responses of anxiety and stress are critical to success in any competitive sport. This is especially true in golf because players of all skill level will often play for salient monetary rewards and they have ample time to reflect on their thoughts and emotions as they play. In the context of golf, players often describe muscle tension, poor coordination, trembling hands, accelerated heart rate, racing thoughts, and loss of mental focus as correlates of "choking" (Valiante, 2005). In a previous investigation by Bordieri and Dixon (under review), it was demonstrated that when novice golfers were allowed to putt from a distance of 5 feet, participants performed better when no financial stakes were on the line. Exploring the interaction of wagering and golf with individuals suffering from pathological gambling has not yet been shown in the published literature. As a result, the present investigation assessed a self-reported avid golfer for potential pathological gambling and observed his golf performance during monetary and non-monetary conditions to determine if a choking response would occur.

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## METHOD

### *Participant*

A twenty-three year old male graduate student who self-reported frequent and regular play at local golf courses was recruited for the study. Percy was assessed for potential pathological gambling with the South Oaks Gambling Screen and yielded a score of 14 (5 or more indicates potential pathological gambler). Percy disclosed playing golf at least 1 time per week and wagering an average of \$50 per round when he gambled on the golf course. He gambled in various formats, including golf, on a weekly basis and reported very frequently that he wished he did not spend as much money as he did on his gambling activity.

### *Apparatus and Setting*

Session took place in a 16 x 20 ft room containing an observation mirror and chairs. Golf swings took place using a hardware device that contained a golf ball and various micro-sensors that captured ball travel across a 1ft platform when struck by the club. The device, "Tiger Woods PGA Tour 2006," was interfaced with a Sony PlayStation2 video game system connected to a 32 inch LCD monitor. Figure 1 displays a photograph of the experimental apparatus. Data were collected by an observer that was positioned 4 ft from the LCD monitor and away from the participant swinging the club.

### *Independent and Dependent Variables*

The independent variable of the study contained two levels: presence or absence of monetary consequences contingent upon golf swing accuracy. The dependent variable was the distance the golf ball was from the hole (in yards) after the swing.

### *Procedure*

The single session took place by initially having the participant complete an informed consent form explaining the general purpose

of the study. Percy was then instructed how to operate the apparatus, which specifically included how to align the golf ball on the attached tee and to swing as he would normally on the golf course. The computer would then record the swing, transfer that information to the PlayStation2 and automatically swing the player's club accordingly on the LCD monitor.

*Phase 1: Baseline.* During baseline Percy was instructed to take 10 swings and attempt to hit the ball as close to the golf hole as possible. The par 3 seventeenth hole at Pebble Beach Golf Links was selected from the "Tiger Woods PGA Tour 2006" computer simulation. After each swing, the ball was returned to the tee, and a subsequent swing was taken. Ten swings in all were completed by Percy. Data in the form of distance from the golf hole in yards were recorded from the visual display on the computer monitor by the observer. The observer also repositioned the golf ball on the electronic apparatus between swings for Percy.

*Phase 2: Intervention.* During the intervention condition Percy was instructed to take an additional 10 swings as done during baseline. However at this time, Percy was informed the following:

Please take 10 more swings as you just did. Yet, if you are able to come closer to the hole/cup during these 10 swings than you were during the past 10 swings, we will provide you with a 20 dollars gift card to a local retailer. Your mean or average distance for the 10 swings will be used to determine if you earned the money or not.

All other aspects of Phase 2 were identical to Phase 1.

## RESULTS & DISCUSSION

During the non-monetary conditions of Phase 1, Percy obtained a mean distance from the golf hole of 12 yards (SD = 7yds). Upon the introduction of the monetary conditions of Phase 2, Percy's performance declined to an



Figure 1. Image of the golfing interface.

average of 20 yards ( $SD = 12$  yds). Thus, both shot accuracy and consistency declined upon the introduction of the potential financial compensation. Both measures of performance have been considered evidence of “choking” in the golf literature (e.g., Lewis, & Linder, 1997), and it appears quite possible that Percy did in fact choke when placed in a gambling-type situation.

While our data are compelling there are a variety of shortcomings that the study suffers from. First, the experimental design, an AB, is rather weak and cannot control for maturation, fatigue, or various other threats to internal validity. A future study should consider using stronger designs such as an ABAB reversal design. Second, our participant’s performance may not necessarily hold true for other pathological gamblers exposed to a similar experimental situation. Future research should go beyond the present single-case and use a larger number of participants in the study. Third, we did not have a true element of “loss” in the study’s “monetary” phase. While we offered Percy \$20 for performing better than baseline, he did not have to pay us \$20 if he did not. While

having a pathological gambler actually gamble with personal money for the purposes of the experiment may seem to hold the greatest external validity, we thought it must be compromised for ethical standards. A future study might consider having non-pathological gamblers wager their own money during the task and see if the choke response becomes more pronounced (i.e. shot accuracy declines and variability increases).

Another limitation of the study was that we are not sure as how nonpathological gamblers may differ under conditions of monetary reward at golf. Instead our data should be considered preliminary, and thus a stimulus for more research that explores the wagering that takes place by athletes of various sorts. Many of which are pathological gamblers. Comparative analyses between nonpathological gamblers and pathological gamblers are warranted as well. The procedures that we employed along with the current software and hardware configurations allow for a wide variety of future studies. For example, researchers may wish to explore how money and no money contingencies vary on every shot, and how changing magnitudes of money may impact shot accuracy.

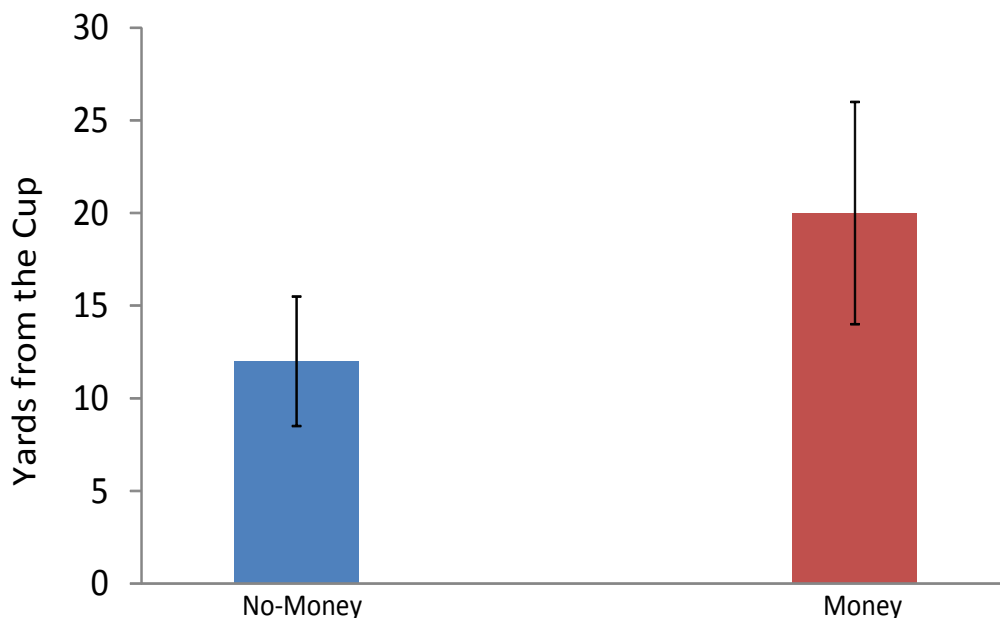


Figure 2. Percy's performance on the golfing task in "yards from the cup."

In summary, examining gamblers that wager at various performance sports seems possible, and doing so extends the published literature on gambling. While sound decision making has been shown to suffer in pathological gamblers, the present study also shows that when face with potential financial gains, the motor performance of the gambler suffers as well.

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