

When superstars flop:

Public status and choking under pressure in international soccer penalty shootouts

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Abstract

The purpose of this study was to examine links between public status and performance in a real-world, high-pressure sport task. It was believed that high public status could negatively affect performance through added performance pressure. Video analyses were conducted of all penalty shootouts ever held in three major soccer tournaments ($n = 366$ kicks) and public status was derived from prestigious international awards (e.g., “FIFA World Player of the year”). The results showed that players with high current status performed worse and seemed to engage more in certain escapist self-regulatory behaviors than players with future status. Some of these performance drops may be accounted for by misdirected self-regulation (particularly low response time), but only small multivariate effects were found.

Key words: self-image, self-destruction, avoidance, time, football

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Choking under pressure is defined as performing worse than expected in situations with a high degree of perceived importance (Baumeister, 1984; Beilock & Gray, 2007). Two hypotheses have typically been forwarded to explain this phenomenon. According to the explicit monitoring hypothesis, pressure induces athletes to consciously monitor and control movements that normally are executed without conscious control. This monitoring disrupts natural skill execution that otherwise would be automatic (Baumeister, 1984). In contrast, the distraction hypothesis states that pressure induces worry, which consumes working memory resources that otherwise would be used to focus on the task, thus causing performance to suffer (e.g., Beilock, Kulp, Holt, & Carr, 2004).

An alternative view on choking describes it as a type of self-regulatory breakdown in response to ego threat and emotional distress (based on Baumeister, 1997). In this perspective, it is held that people feel threatened when favorable views about themselves are called into question by others. One likely response to ego threat is emotional distress (i.e., as described by Baumeister, 1997: general negative affect such as anxiety and depression). When experiencing this distress, one's systems for self-regulation sometimes break down and people search immediate escape, for example by avoiding attending to the stressful information or speeding up to get the situation "over and done with". Although such self-regulation may provide initial relief from unpleasant emotions, it also may harm performance, thus ultimately becoming self-defeating.

Baumeister (1997) argued that a prototype case of ego-threat involves the prospects of being unfavorably evaluated on a dimension that previously was favorably appraised; for example performing with unrealistically high public expectations or having markedly inflated self-esteem. Indeed, studies have shown that the influence of threatened egotism is most destructive when people encounter situations where they may “lose face” (Baumeister, 1997). For example, being favored in competition leads to additional perceived performance pressure (Gibson, Sachau, Doll, & Shumate, 2002). Moreover, audience expectations for success can reduce performance, unless the performer privately expects success (Baumeister, Hamilton, & Tice, 1985). Studies have also shown that the mechanisms causing performance drops for highly appraised people can be linked to self-regulation. For example, people with high self-esteem who underperform in ego-threat situations show signs of self-regulatory breakdowns, favoring speed over accuracy (Baumeister, Heatherton, & Tice, 1993).

There are few studies on choking under pressure in real-world settings (for a review, see Beilock & Gray, 2007). In the current study, we addressed this knowledge gap by examining public status, self-regulation, and performance in a field sport task: the soccer penalty shootout. Some recent research has suggested that penalty kickers in major international tournaments are particularly susceptible to choking under pressure (e.g., Jordet, Hartman, Visscher, & Lemmink, 2007). Specifically, under conditions where the negative valence of a shot is salient (i.e., shots where a miss instantly produces a loss), players respond with avoidance behaviors, such as looking away and speeding up their preparation, and they perform considerably worse than on neutral and positive valence shots (Jordet & Hartman, 2008). Thus, when these performers’ egos are severely

threatened, they seem to engage in self-regulatory behaviors that backfire and reduce performance. In the present study, we wanted to check whether high public status (another aspect of ego-threat) could produce the same pattern of choking. We hypothesized that although skilled players would perform better than less skilled players, high public status would affect performance negatively. Moreover, we expected these effects to come from various self-defeating self-regulatory behaviors, such as looking away and speeding up the preparation time.

Method

Data

Video images were obtained from all penalty shootouts ever held in the World Cup ($n = 20$, 1982 to 2006), European Championships ($n = 11$, 1976 to 2004), and UEFA Champions League ($n = 6$, 1996 to 2007). This gave 37 penalty shootouts and 366 kicks from 298 players. The players' mean age was 26.6 years ($SD = 3.56$, range 18 to 36). Most players (80.0%) took one shot, 16.3% took 2 shots and 3.7% took 3 or 4 shots.

Variables

Public status. Status was assessed based on major international soccer awards: FIFA World Player of the Year (1-3 place), World Cup Golden ball/Silver ball/Bronze ball, Ballon d'Or (1-3 place), UEFA Club Footballer of the Year (including for each positional role), and South American Footballer of the Year. In total, 41 players who were involved in the penalty shootouts won one or more of these awards and these players took a total of 67 shots. We distinguished between current-status players who took their shots after receiving an award ($n = 40$ shots, M time passed after award = 2.5 years, $SD = 1.5$), future-status players who all have received an award, but who took their

shots before they received it ($n = 27$ shots, M time before award = 1.4 years, $SD = 1.9$), and no-status players who, until June 2007, had not received any awards ($n = 299$ shots).

Skill. Based on Jordet et al. (2007), players with more goal scoring experience (forwards) were assumed to have better penalty skills than players with less experience (defenders) and thus, the skill variable was derived from role in the team.

Self-regulation. Two variables represented self-regulation. First, looking behavior was derived from the direction of the players' faces as they walked back from the ball to prepare their run-up. At this point, players either walk backwards from the ball while facing the goalkeeper (approach looking) or turn around, direct their faces away from the goalkeeper and then walk back (avoidance looking) (based on Jordet & Hartman, 2008). Shots where the players' walk back could not be seen ($n = 30$) were excluded from the analysis. Second, response time was defined as the time spent standing still after the referee has signaled a go for the shot (by whistle or hand) until beginning the run-up (first step towards the ball). The video frames between these start and end points were counted (with the video processing utility *VirtualDub*) to give response times. We excluded shots ($n = 78$) where any of the two points could not be seen. Two independent observers coded all shots and adequate inter-observer agreement was obtained for both looking behavior (92.8% total agreement) and response time ($r = .86, p < .001$). Shots with major coding discrepancies were discussed and the final decision was based on consensus between the two observers.

Performance. Shot outcomes (goal or miss) indicated performance. To provide some control for the actions of the goalkeeper, we also assessed whether each missed shot was saved or shot wide. Finally, we looked at whether the goalkeepers directed their

saving attempts to the correct side of the goal (where the ball was shot) or to the wrong side (based on Jordet & Hartman, 2008). The premise for this latter analysis was that many players probably have a predefined target for their shot and goalkeepers either guess or rely on anticipatory cues to determine the direction (left/right) of their saving attempts. From Jordet and Hartman (2008), it follows that half of the goalkeepers (51.5%) picked the correct direction and the other half (48.5%) picked the wrong direction. Thus, for a large part of the total shots (where the goalkeeper picked the wrong direction), it is possible that poorly placed shots still were scored because the goalkeepers went to the wrong side. In these cases, the shooters may have underachieved as a result of the pressure and then they were simply lucky with the shot outcome. With the extra analysis (only shots where the goalkeeper went to the correct side), we could reduce this source of error by increasing the probability that a registered goal would come from a high-quality shot that had to pass the correctly directed saving attempt by the goalkeeper.

Data analysis

To examine the links between most variables and performance, we used a series of univariate logistic regression analyses, giving Odds Ratios (*OR*). Here, we operated with response time as a categorical variable (by splitting it into three equal groups) while it was treated as a continuous variable when examining links between public status and response time. Mann-Whitney test was used in the latter analysis. For the multivariate tests, Odds Ratios of public status (on performance) from the univariate analysis were compared to Odds Ratios after adding response time or looking behavior.

Results

Skill and Performance

The players scored on 73.8% ($n = 270$) of the shots, and missed on 26.2% ($n = 96$). Thus, the base $OR = 73.8/26.2 = 2.82$. Forwards scored more goals (80.0%, $OR = 1$, reference category) than defenders (67.7%, $OR = .52$, $p = .043$), but not significantly more than midfielders (72.9%, $OR = .67$, $p = .179$).

Status and Performance

The current-status players scored fewer goals (65.0%) than the future-status players (88.9%; $OR = 4.31$, $p = .036$, though not much less than the no-status players (73.6%; $OR = 1.50$, $p = .256$). The current-status players also seemed to more frequently shoot wide of the goal (12.5%) than the future-status players (7.4%) and the no-status players (5.4%). However, the small samples prevent reliable statistical tests of these latter relationships. Moreover, the goalkeepers did not move more in the correct direction when faced with the shots by the current-status players (37.5%) than the future-status players (51.9%) or the no-status players (54.4%), indicating that the shot direction (left or right) by the publicly known current-status players were not easier to anticipate by the goalkeepers. Also, the performance differences somewhat increased when only shots where the goalkeepers moved in the correct direction were selected, with current-status players only scoring on 40.0% (from $n = 15$) of their shots compared to 85.7% by the future-status players ($OR = 9.00$, $p = .018$, $n = 14$) and 57.4% by the no-status players ($OR = 2.02$, $p = .201$, $n = 162$) (current-status as reference category).

Status, Self-regulation, and Performance

For looking behavior, there were no differences between the current-status players (27.0% avoidance looking), the future-status players (26.9%) and the no-status players (31.1%) (all $p > .61$). For the response times, there was a trend that the current-status

players took less time ($M = .48$ s, $Mdn = .49$ s, $SD = .29$, $n = 30$) than the no-status players ($M = .78$ s, $Mdn = .56$ s, $SD = .79$, $n = 233$) ($U = 2778.00$, $p = .067$), but the same time as future-status players ($M = .59$ s, $Mdn = .49$ s, $SD = .37$, $n = 25$) ($U = 324.50$, $p = .393$). There was no relationship between looking behavior and performance (75.6% and 72.5% goals for approach and avoidance looking, respectively, $OR = 1.18$, $p = .549$). With respect to response time, slow players ($OR = 1$, reference category) scored more than quick players ($OR = .46$, $p = .023$), and there was also a trend that slow players scored more than medium quick players ($OR = .50$, $p = .056$) (see Figure 1).

Multivariate logistic regression analyses showed that adding response time to the model on status and performance only marginally reduced the effect for current-status players compared to future-status players (from $OR = 4.246$, $p = .045$ to $OR = 4.136$, $p = .050$) and no-status players (from $OR = 1.56$, $p = .273$ to $OR = 1.45$, $p = .363$). There were no effects for looking behavior.

Discussion

The results of this study provide some insights into the possible effect of public status and expectations on elite athletes performing high-pressure sport tasks. Specifically, publicly esteemed “superstars” (recipients of prestigious soccer awards) perform worse in major soccer penalty shootouts than other players, even though skilled goal-scorers perform better than less skilled goal-scorers. Interestingly, this performance difference is largest when the current-status players are compared to players who later in their careers go on to achieve the same level of public status. Thus, it is possible that those future-status players possess the same qualities as the current-status players, but

when these qualities are not yet recognized by others, there is less public pressure and the players perform better.

It also seems that the current-status players engage more in potentially self-defeating self-regulatory actions (i.e., responding faster, possibly to get the situation “over with”) and that this accounts for some (although a very small part) of the negative effects of status on performance. These results provide some support to research (e.g. Baumeister et al., 1993) showing that egotistical illusions can make the prospects of failing particularly threatening, causing self-regulatory breakdowns and choking. Although the results showing that high speed is linked to low performance seem to undermine the explicit monitoring hypothesis, the data do not allow unambiguous conclusions to be drawn with respect to the common explanations of choking under pressure (i.e., explicit monitoring or distraction).

The present results coincide with previous research on the soccer penalty shootout. However, contrary to the players performing under negative valence situational threat (Jordet & Hartman, 2008), the players under threat in the present study (the current-status players) did not engage more in avoidance looking than the other players. One explanation for this discrepancy can be that, despite a possible threat-induced desire to look away, some of the “superstars” may deliberately withhold gaze-contact with the keeper because avoiding gaze can be felt as directly undermining one’s superior status. Indeed, a recent study has shown that shooters’ avoidance gaze in penalty situations are perceived by goalkeepers as less confident (Greenlees, Leyland, Thelwell, & Filby, 2008). High-status players may implicitly be aware of goalkeepers and others thinking this way, and in an attempt to display attributes consistent with their rank, they refrain

from looking away. Another possibility is that the avoidance gaze merely is part of these experienced players' pre-shot routine.

Research on the effects of public status/expectations in sport seems potentially fruitful, but some important knowledge gaps need immediate attention by researchers before this potential can be realized. For example, researchers should examine whether negative effects from public status and high expectations also occur in other sports/tasks; provide more nuanced distinctions between different degrees of public status; and finally, more directly investigate the subjective experiences of public status.

For practitioners working to prepare athletes performing in high-pressure situations, our results highlight the importance of offering psychological support to the most publicly recognized performers and to make sure that the athletes' pre-performance routines consist of effective self-regulatory behaviors. Specifically, before going into a high-pressure situation, coaches and/or sport psychology consultants should identify whoever in the group has the highest public status or most inflated public expectations, as these individuals are likely to experience extra performance pressure and thus, possibly need specific intervention. Our results also support previous research findings that skilled performers may benefit from appropriate use of pre-performance routines (for a recent review of these studies, see Lidor, 2007). Performers should be educated about the possible self-defeating drawback associated with certain self-regulatory behaviors (i.e., speeding up the preparation) and rather develop a pre-performance routine that involves taking extra seconds before initiating the performance.

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References

- Baumeister, R.F. (1984). Choking under pressure: Self-consciousness and paradoxical effects of incentives on skillful performance. *Journal of Personality and Social Psychology, 46*, 610-620.
- Baumeister, R.F. (1997). Esteem threat, self-regulatory breakdown, and emotional distress as factors in self-defeating behavior. *Review of General Psychology, 1*, 145-174.
- Baumeister, R.F., Hamilton, J.C., & Tice, D.M. (1985). Public versus private expectancy of success: Confidence booster or performance pressure. *Journal of Personality and Social Psychology, 48*, 1447-1457.
- Baumeister, R.F., Heatherton, T.F., & Tice, D.M. (1993). When ego threats lead to self-regulation failure: Negative consequences of high self-esteem. *Journal of Personality and Social Psychology, 64*, 141-156.
- Beilock, S.L., & Gray, R. (2007). Why do athletes choke under pressure? In G. Tenenbaum & R.C. Eklund (Eds.), *Handbook of sport psychology* (3rd ed., pp. 425-444). Hoboken, NJ: John Wiley & Sons.
- Beilock, S.L., Kulp, C.A., Holt, L.E., & Carr, T.H. (2004). More on the fragility of performance: Choking under pressure in mathematical problem solving. *Journal of Experimental Psychology: General, 133*, 584-600.
- Gibson, B., Sachau, D., Doll, B., & Shumate, R. (2002). Sandbagging in competition: Responding to the pressure of being the favorite. *Personality and Social Psychology Bulletin, 28*, 1119-1130.
- Greenlees, I., Leyland, A., Thelwell, R., & Filby, W. (2008). Soccer penalty takers'

- uniform colour and pre-penalty kick gaze effects the impressions formed of them by opposing goalkeepers. *Journal of Sports Sciences*, 26, 569-576.
- Jordet, G., & Hartman, E. (2008). Avoidance motivation and choking under pressure in soccer penalty shootouts. *Journal of Sport & Exercise Psychology*, 30, 452-459.
- Jordet, G., Hartman, E., Visscher, C., & Lemmink, K.A.P.M. (2007). Kicks from the penalty mark in soccer: The roles of stress, skill, and fatigue for kick outcomes. *Journal of Sports Sciences*, 25, 121-129.
- Lidor, R. (2007). Preparatory routines in self-paced events: Do they benefit the skilled athletes? Can they help the beginners? In G. Tenenbaum & R.C. Eklund (Eds.), *Handbook of sport psychology* (3rd ed., pp. 445-465). Hoboken, NJ: John Wiley & Sons.

Figure caption

Figure 1. The relationship between response time and performance, with Odds ratios and significance levels.

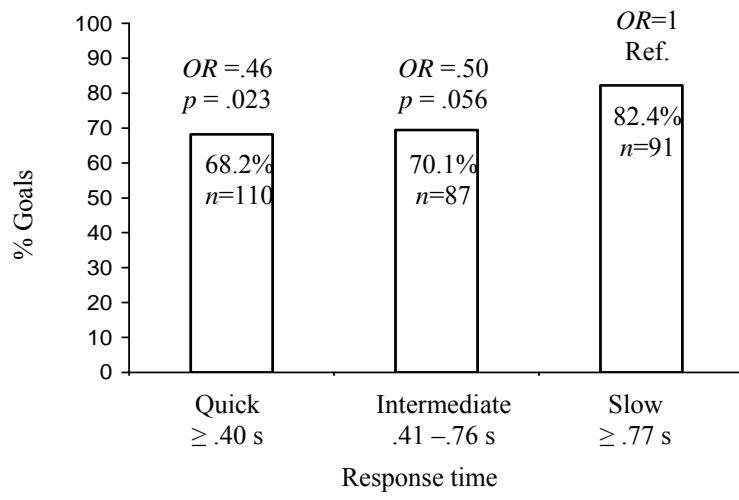


Figure 1.