Journal of Sports Sciences, April 2005; 23(4): 429–438

Taylor & Francis
Taylor & Francis Group

Audience support and choking under pressure: A home disadvantage?

HARRY M. WALLACE[1], ROY F. BAUMEISTER[2], & KATHLEEN D. VOHS[3]

[1]*Department of Psychology, Trinity University, San Antonio, TX, USA,* [2]*Department of Psychology, Florida State University, Tallahassee, FL, USA, and* [3]*Sauder School of Business, Marketing Division, University of British Columbia, Vancouver, BC, Canada*

Abstract
This paper highlights the not-so-obvious but compelling reasons why the same supportive audiences that can help performers attain their highest potential also may increase performers' risk of choking under pressure. Drawing primarily from social psychology research and theory, we conclude that audience support magnifies performance pressure and induces performers to avoid failure rather than seek success during the most critical moments of performance contests. Although supportive audiences can inspire performers to excel when motivation would otherwise be lacking, audiences may also lead performers towards maladaptive self-monitoring and overcautiousness when the stakes are highest. The increased self-focus that supportive audiences induce can disrupt the automatic execution of the skills performers possess. Dispositional and situational moderators of the relationship between audience support and performance are reviewed.

Keywords: *Audience support, choking under pressure, home advantage, narcissism, social facilitation*

Introduction

The home advantage is unquestionably a powerful influence on performance outcomes in many domains of sport. Athletes simply enjoy more success performing at home than on the road (Courneya & Carron, 1992). Home advantage effects are more apparent in some sports than in others, but in no sport that we are aware of do athletes typically perform worse at home. Many plausible explanations for the home advantage have been proposed (e.g. environment familiarity, referee bias, travel factors; see review by Nevill & Holder, 1999), but one of the most obvious is that supportive audiences elicit better performance than unsupportive audiences. In this paper, we examine how supportive audiences can help performers, but we also conclude that home advantages have obscured a key disadvantage associated with audience support: supportive audiences may induce more choking under pressure than unsupportive audiences.

The notion that supportive audiences induce choking under pressure was introduced by Baumeister and Steinhilber (1984), whose archival research on baseball World Series and basketball championship series revealed that home teams tended to lose the decisive game of the championship series, in sharp contrast to their winning records in most other games. In the 20 years since Baumeister and Steinhilber published their findings, corroborating evidence for the home choke has been found in archival research on championship contests in golf (Wright & Jackson, 1991) and ice hockey (Wright & Voyer, 1995). The most direct evidence of supportive audiences harming performance was presented by Butler and Baumeister (1998), who systematically manipulated audience support in laboratory experiments and found that participants performed less well when performing for supportive versus unsupportive audiences. Still, evidence for the home choke is hardly overwhelming. Baumeister and Steinhilber's (1984) original evidence of the home choke has not held up well over time, because in more recent years home teams have won the majority of World Series final games (see Schlenker, Phillips, Boniecki, & Schlenker, 1995), although they may have benefited by recent rule changes that confer greater advantages to home teams. It is also clear that home advantage effects in sports research are far more prevalent than home disadvantage effects, though the exact source of the home advantage is impossible to pinpoint from the inherently ambiguous archival data that home advantage researchers typically rely upon.

Correspondence: H. M. Wallace, Department of Psychology, Trinity University, One Trinity Place, San Antonio, TX 78212, USA. E-mail: harry.wallace@trinity.edu

ISSN 0264-0414 print/ISSN 1466-447X online
DOI: 10.1080/02640410400021666

To firmly establish how supportive audiences affect performance, researchers will need to move beyond archival examinations towards focused qualitative and experimental investigations of performers' responses to audiences as they occur. The scarcity of such research may be due in part to methodological challenges, but it may also be attributable to a perceived lack of theoretical rationale for investigating the possibility that supportive audiences could be anything but beneficial. In the paragraphs that follow, we highlight why, when and how audience support contributes to choking under pressure.

Audience support defined

In certain domains of performance, most notably those involving athletic competition, performers are commonly observed by an audience, a term we reserve for observers as well as participants (e.g. team-mates and competitors) physically present at the event. We consider an audience to be supportive when its members want the performer to succeed and they convey their wishes to the performer. We characterize an audience as unsupportive if its members communicate their hope that the performer will fail to the performer. There are many ways that an audience can express support or lack of support to performers (applause, booing, clothing, signs), and different performers may have different interpretations of audience behaviours. Moreover, audiences are rarely uniformly supportive or unsupportive of competitors, especially in professional sports, and in some places performers may experience more hostility from their home audience than other audiences. In general, though, it is probably fair to assume that the audiences for most sports events have a predominant orientation to favour one team over the other, and that most performers expect and notice this.

The effects of audience support on performance ultimately depend on performers' subjective perceptions of their audience, but it is impossible to know for sure whether a performer feels audience support or not without consulting the performer. This is potentially a problem for researchers interested in studying the effects of audience support, because assessing performers' perceptions of their audiences as they perform is typically inconvenient or inappropriate. We assume, as previous researchers have, that researchers' assessments of audience support are reasonably equivalent to audience perceptions of performers, though to our knowledge the intriguing question of whether researchers' judgements of audience support match performers' perceptions is untested. We also presume that performers generally view home audiences as supportive and ''away'' audiences as unsupportive.

Our definition of audience support distinguishes audience support from the more general concept of social support. Social support, broadly defined as help from people given to or anticipated by an individual, may help performers to overcome challenges and setbacks and attain the accomplishments of which they are capable. Indeed, the benefits of a supportive audience seem clear when one considers the large clinical literature showing benefits of social support. In particular, evidence that social support can provide a buffer against the detrimental effects of stress (e.g. Cohen & Wills, 1985) would seem to suggest that social support could reduce the performance pressure that can lead to choking. However, we view audience support and social support as orthogonal variables. The influence of audience support defined here is limited to the narrow time frame in which the performance occurs. Whether the audience during a given performance is adoring or hostile is not likely to alter the performer's perceived social support in a broader context. In other words, we view social support as a relatively stable, trait-like personal resource, but we consider audience support to be a situation-specific environmental state. Social support is likely to influence a performer's response to an audience, but it does not determine audience supportiveness.

Choking under pressure: Predictors and processes

Performance pressure can be defined as an aspect of the situation, consisting of the importance of doing well on a particular occasion (Baumeister, 1984). Individuals feel performance pressure to the extent that they care deeply about the outcome of their performance *and* they perceive that their performance is instrumental for the attainment of the desired outcome. Performance pressure normally increases the performer's motivation to achieve his or her desired goal. Note that when we discuss motivation in this paper, we refer specifically to individuals' motivation during performance, not prior to performance. Clearly, individuals with high motivation to achieve a future performance outcome may prepare for their future performance task differently than individuals who feel little motivation to achieve a future performance outcome. These differences in preparation undoubtedly influence perceived performance pressure, but this possibility is beyond the scope of this paper.

The choking part of the term ''choking under pressure'' simply refers to underachievement. Individuals can be said to have choked when their performance under high pressure is inferior to their

performance under low pressure. In other words, choking implies a negative change in performance. One of the challenges involved in examining choking under pressure is determining whether the performer actually felt performance pressure. Just as observers cannot easily assess performers' perceptions of audience support, they also cannot easily gauge performers' experienced performance pressure. Thus, some instances of apparent choking may reflect performer disinterest rather than effects of performance pressure. Performers who seem to thrive under pressure may simply not feel the performance pressure that others assume is present.

To predict how performers will respond to pressure, it is useful to consider performers' level of motivation and the type of task being performed. Performance pressure is directly tied to the performer's motivation to achieve certain outcomes. Normally one would not feel strong performance pressure without simultaneously having strong motivation to attain a performance goal. Therefore, pressure should generally cause an increase in effort. To the extent that performance is determined by pure effort, high motivation should predict high performance.

Effort, however, is not the only determinant of performance. In many sports, performance depends on skill, which is a learned ability. Skilled performance normally involves non-conscious, automatic processes that are subject to overlearning. That is, a novice may begin to acquire skill by engaging in repetitive practice using intense conscious concentration, but over time the responses become increasingly automatic and less conscious. When a skilled task becomes automatic, task performance is typically efficient, reliable, inflexible (the task is ideally performed almost exactly the same way each time) and relatively effortless.

The psychological processes involved in skilled versus effort-based performance can be quite different. Effort is more subject to immediate conscious control than skill, so that on a single occasion a person may decide to increase effort but increased skill cannot be achieved merely through force of will. Effort-based performances are probably more subject to cognitive or physical fatigue than skilled performances involving less conscious self-regulation (Muraven, Tice, & Baumeister, 1998). Praise appears to cause an increase in effort but a decrement in skill (Baumeister, Hutton, & Cairns, 1990). For present purposes, the most relevant difference may be that performance pressure and other incentives should increase effort but impair skilled performance. The latter is the essence of choking. Thus, choking under pressure is primarily an impairment of skilled performance, and one would not expect effort-based performances to be subject to choking (Baumeister, 1984).

Although choking could conceivably occur by several different mechanisms (see review by Baumeister & Showers, 1986), the weight of evidence indicates that performance pressure induces choking by changing performers' attentional focus (e.g. Baumeister, 1984; Beilock & Carr, 2001; Lewis & Linder, 1997). Maximizing skill task performance requires extensive practice to make the execution of initially challenging tasks less difficult. Performers practise the same routines repeatedly until they can reliably perform many aspects of their task automatically without having to think about what they are doing when they are doing it. By training themselves to perform certain elements of their task automatically, performers can concentrate their attention on the elements of their task that truly demand conscious attention. To perform well on complex tasks of skill, individuals must focus conscious attention on certain aspects of their task without consciously attending to other elements of their task that they can execute automatically. For example, to have a chance at hitting a curveball thrown by a professional baseball player, batters cannot afford to think about the placement of their hands on the bat or the angle of their batting stance at the moment the pitcher releases the ball. To perform well, skill task performers must monitor certain aspects of themselves and their environment while ignoring other factors such as the elements of their performance they have trained themselves to execute automatically.

Performers who care deeply about the outcome of their performance naturally try to do everything in their power to ensure that they execute each element of their task as well as possible. Unfortunately for them, their efforts to ensure success can ironically cause them to fail. When individuals attempt to consciously control aspects of their performance that they normally execute automatically, this change in their performance routine often results in sub-par performance (Beilock & Carr, 2001). For example, if performance pressure leads a veteran track hurdler to start thinking about the positioning of his feet during the race – something the hurdler does not normally think about – it is highly unlikely that this new attention to detail will benefit his performance. One problem with overriding automatic performance responses is that the conscious attention to automatic elements of the performance may cause those particular performance elements to function less effectively. In the example of the hurdler, devoting conscious attention to feet positioning may cause the hurdler to position his feet in a maladaptive way. But even if consciously overriding an automatic response results in an improvement in the area of performance the performer is focusing on, other aspects of performance may suffer from the attentional shift. For example, the hurdler might be able to improve

the positioning of his feet with conscious attention, but his overall performance could still suffer from this shift in attention if his attention to feet positioning resulted in less concentration on other aspects of the task that demand conscious attention.

The different processes characterizing effort and skill, and in particular their differential susceptibility to choking under pressure, may account for the notion that ''offense sells tickets, but defence wins championships''. In certain sports (e.g. basketball), this cliché may be accurate in so far as offense in these sports is heavily saturated with skill, whereas defence depends more centrally on effort. In American football games, for example, sports announcers fret about how long one team's defence has been playing, often predicting doom if it has been playing too long, but they rarely apply the same strictures to the opposing team's offense, even though that offense has almost certainly played just as long as the ostensibly tired defence. Sports fans may marvel at the feats of offensive players, which can involve impressive displays of advanced skills. But when the pressure of a championship game takes its toll, the skills of the offense are more likely to deteriorate, whereas defensive players can maximize their effort and thereby play up to their potential. Note, however, that the characterization of offense as skill and defence as effort is more applicable to some sports (and some roles within specific sports) than others. The job of a goalkeeper in hockey and soccer is purely defensive, yet their success appears more dependent upon skill than effort.

Learning to perform skill tasks automatically generally improves performance efficiency because performers can preserve cognitive and self-regulatory resources that would otherwise be devoted towards task execution. Automatic skills are also efficient from a time saving standpoint: as skill tasks become more automatic, the time required to execute the task effectively should typically decrease. Therefore, when performance pressure causes performers to override the automatic elements of their performance with increased self-attention, this shift from automatic to controlled task execution should tend to reduce performance speed because attending to and consciously directing performance processes takes time. The reduction in performance speed that increased self-attention can create becomes a problem when high performance speed is crucial (as is the case in many sports), or when reduced speed is not accompanied by improved accuracy. When people consciously monitor the skilled processes that they normally perform automatically, the probability that their conscious monitoring of automatic skills will result in immediate performance accuracy improvement is low – performers presumably would not have repeated their task approach to the point where it became second nature if the approach did not consistently yield positive outcomes.

Although pressure-induced attempts to control automatic performance processes could cause delays in skill task execution simply because of the extra steps required for self-regulation, another explanation for hesitancy in skill task execution under pressure is that performance pressure often makes people cautious in their performance-related decision making. The degree of caution displayed by performers depends partly on the extent to which they are oriented towards avoiding failure rather than attaining success. To predict behaviour in response to performance pressure, it is more useful to identify the nature of performers' motivation than the level of their motivation (which should tend to rise with performance pressure). The more performers focus on avoiding failure rather than approaching success, the more risk-averse their decision-making becomes (Isen, Nygren, & Ashby, 1988). The cautious performance style that failure avoidance motivation fosters may be adaptive in certain performance contexts, but the large body of research linking failure avoidance motivation with negative performance outcomes (e.g. Elliot & Church, 1997; Elliot & McGregor, 2001; see review by Rawsthorne & Elliot, 1999) suggests that failure avoidance predicts choking under pressure. To borrow an old sports cliché, people who choke under pressure typically play to not lose rather than play to win. Anecdotal evidence of the relationship between choking and overcautiousness can be drawn from the sport of golf, in which pressure putts are famously left short more often than not. In team sports, choking under pressure may be reflected in athletes' decision to avoid involving themselves in plays that could determine the outcome of the contest. For example, a basketball player who would not normally hesitate to shoot a 17-foot jump shot might pass up this shot in favour of a pass when the game is on the line.

All other factors being equal, the magnitude of failure avoidance motivation should be stronger than the magnitude of success approach motivation simply because bad outcomes in general have a greater psychological impact than good outcomes (see review by Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). In other words, the perceived costs of failure typically outweigh the perceived rewards of success, even if the costs are objectively equivalent to the rewards (e.g. Kahneman & Tversky, 1979). However, the extent to which a performer is oriented towards attaining success or avoiding failure at a given moment depends on situational and dispositional factors that affect the salience of success versus failure outcomes as well as the perceived significance and likelihood of success versus failure. In the next section, we discuss how the situational factor of audience support can

influence performers' motivational orientation and their susceptibility to choking under pressure.

Audience support and performance under pressure

In the century since Triplett's (1898) classic studies of audience effects on bicycle racers and fishing reel threaders, psychologists have conducted hundreds of studies examining how audiences influence performance (see reviews by Bond & Titus, 1983; Strauss, 2002). These studies generally confirm the intuitive notion that the presence of an audience increases performers' motivation. The motivation that audiences provide helps performers to excel when executing effort-based tasks. The motivation induced by audiences may also help performers to perform skill tasks better in circumstances when they would otherwise lack motivation. However, audiences can also be a source of performance pressure. When the performer's level of motivation would be sufficient regardless of audience support, the added pressure that audiences provide may cause choking. But does the supportiveness of an audience influence the probability of choking under pressure?

Most research examining audience effects on performance has focused on how performance is affected by audience size, the extent to which the audience is attentive or evaluating, or the nature of the task; relatively few studies have directly explored audience supportiveness as a performance predictor. It is tempting to interpret research demonstrating a home advantage in sports as an indicator of the effects of audience supportiveness, but as noted earlier, there are many variables besides audience supportiveness that can produce home advantages.

Considering the strong evidence for home advantage effects and the expectations that this evidence should induce (e.g. anticipated referee bias; Nevill, Balmer, & Williams, 2002), it is not surprising that performers report more confidence in their ability to succeed when their audience is supportive (e.g. Bray, Jones, & Owen, 2002; Bray & Widmeyer, 2000; Terry, Walrond, & Carron, 1998), More often than not, such self-confidence predicts positive performance outcomes (see Craft, Magyar, Becker, & Feltz, 2003; Woodman & Hardy, 2003), especially if confidence is accompanied by motivation (which audiences provide). Of course, performers' subjective beliefs about the helpfulness of supportive audiences may not reflect reality, so behavioural confirmation of performers' perspectives is necessary. Butler and Baumeister (1998) directly tested the relationship between audience support and skilled performance with three experiments that manipulated audience support and examined its effects on mental arithmetic or video game performance. As in the self-report findings just described, participants consistently reported a preference for supportive audiences rather than neutral or adversarial audiences, and participants with supportive audiences thought their performance benefited from audience support. However, contrary to participants' perceptions, participants with supportive audiences actually performed worse on difficult tasks involving skill than participants with unsupportive audiences in all three studies. The results suggest that participants with audience support consistently displayed an overcautious style of performance, apparently because they were more concerned than other participants about accuracy. Participants with audience support executed their tasks more slowly than other participants, yet the accuracy of participants with audience support was no better (and in one experiment, worse) than the accuracy of other participants. Thus, the pattern of behaviour shown by participants with audience support in these studies mirrored the behaviour one would expect from individuals who become overly self-focused in response to performance pressure.

It is not difficult to understand why supportive audiences might induce performance pressure and overcautious performance. Performance motivation and performance pressure vary according to the perceived importance of success and failure. Supportive audiences magnify both the both the rewards of success and the costs of failure. With regard to the rewards of success, performers who succeed in front of supportive audiences get to enjoy the satisfaction of achieving their goal while displaying their talents to others, *and* they can bask in the affection of their fans and feel good about having made other people happy. The experience of succeeding in front of an unsupportive audience may bring a certain ''in your face'' satisfaction beyond the satisfaction associated with goal achievement, but presumably it is more fun to win when others want to share in the glory of victory and victory enhances the admiration shown by others. People want to win, but most people also want to be liked. Performers with adversarial audiences know that the ill will shown to them by their audience would only be exacerbated by their success. In sum, audience support gives performers more reason to be motivated to attain the rewards linked with success.

The problem for performers with audience support is that their motivation to achieve success may be eclipsed by their desire to avoid the penalties associated with failure and, as discussed previously, failure avoidance predicts choking under pressure. Performers with supportive audiences simply have more to lose than other performers with unsupportive audiences. One of the things that performers with supportive audiences may lose if they fail to

reach their performance objective is the support of their audience. Members of ''supportive'' audiences may withdraw their support if the performer fails to deliver the desired outcome. Audience members are not often unconditional admirers of performers. For example, some sports fans may abandon their allegiance to slumping teams to climb on the ''bandwagon'' of teams that have had the most recent success. Performers who perceive that the support of their audience is contingent on their success may feel pressure to maintain their support (and may be more inclined to choke) than performers who expect that they will have support regardless of the performance outcome.

One could argue that if performers view their audience's support as completely contingent on their success, they may feel less pressure because they care less about pleasing an audience without loyalty. We suspect that this possibility that performers lose motivation when they perceive their apparently supportive audience as disloyal is uncommon, at least in sports, because most of the fans and teammates who comprise supportive audiences tend to maintain their support at least to some extent when the performers they support struggle. We also suspect that very few members of supportive audiences offer support that is truly non-contingent. Even the most supportive audience members express their frustrations when the object of their support underachieves. Therefore, performers should feel pressure to deliver performances that ensure that their audience support will not waver.

The audience's response to a performance outcome depends partly on their outcome expectations. When the performers they support fail, they should be especially unhappy about this outcome if they had expected the performers to succeed. Performers believe that audience support is an advantage (Bray *et al.*, 2002; Bray & Widmeyer, 2000), so presumably audiences similarly believe in the home advantage. Therefore, home audiences may expect that their support will help the home team to succeed. To the extent that performers care about the happiness of the audience that supports them, they should feel more pressure to avoid failure when their audience expected success before the decisive moments of performance. Not surprisingly, research has shown that people are more prone to choking when they must cope with high audience expectations (Baumeister, Hamilton, & Tice, 1985; Baumeister, Hutton, & Cairns, 1990), and people sometimes engage in self-handicapping (claiming or creating performance impediments) or sandbagging (hiding one's abilities to others) behavior in an attempt to lower audience expectancies (e.g., Berglas & Jones, 1978; Gibson, Sachau, Doll, & Shumate, 2002). Of course, the success of handicapping or sandbagging strategies in reducing the expectations of supportive audiences may be undermined if audience members believe that their support gives performers an advantage.

Another reason why the cost of failure may be magnified for performers with supportive audiences is that such performers may recognize and be concerned about the fact that their audience would be disappointed by failure (Heaton & Sigall, 1991). Failure is bad enough with an unsupportive audience, but in this case performers do not need to live with the burden of having disappointed others. The notion that performers feel pressure to avoid disappointing supportive audiences was crystallized in the comments of the best professional golfers in the world following the 2003 President's Cup. The President's Cup pits a team of golfers representing the United States against an ''international'' team representing countries other than the USA. The players give every indication of taking this tournament very seriously despite the fact that the only material reward at stake is a trophy. Based on a report of the event we describe below, it appears that their motivation to succeed in the President's Cup is enhanced by the fact that their team-mates are counting on them.

In the 2003 edition of the President's Cup, the tournament ended with a sudden-death tie-breaker matching Tiger Woods, the top player in the world, against Ernie Els, widely regarded as the second best player in the world. After three holes of the playoff failed to produce a winner, the tournament was declared a draw by the team captains, Jack Nicklaus and Gary Player. Amazingly, according to Sports Illustrated online (2003), the ''captains felt it was too much pressure for any one player'' and the players apparently agreed. Els admitted that the playoff was ''Probably the first I've ever felt my legs shaking''. He explained, ''You look over and see your team. You're like, 'I've got to look away'. It's unbelievable pressure''. Woods called the playoff ''one of the most nerve-racking moments I've ever had in golf''. He described how he prepared to putt with his red-shirted team-mates in the background by saying, ''I saw all this red and I was just trying to block that out''. In this example, the two best golfers in the world felt more pressure than they had ever felt simply because of the presence of their supportive team-mates – and they coped by trying to ignore their supportive team-mates.

Concern about disappointing a supportive audience is heightened when the performer knows that the audience has a personal investment (e.g. time, energy, money, emotions) in the performance outcome. Performers who invest substantial personal resources in pursuit of their goal have more to lose by failing. Similarly, audiences who have made a substantial investment to support a performer risk

great disappointment if the performer fails. In the President's Cup example, Woods and Els knew that their team-mates had tried very hard to ensure the success of their team and cared deeply about the outcome of the match. Both golfers had to handle the pressure of knowing that failure would in some ways waste the efforts of their team-mates. In this case, the performance pressure induced by supportive golf fans was apparently less significant than the pressure stemming from the presence of team-mates, who presumably were more invested in the outcome than the fans and therefore had more to lose.

In summary, audience support should benefit performers when their task requires more effort than skill or when motivation would otherwise be missing, but audience support should foster performance pressure, failure avoidance and choking on skill-based tasks. Of course, audience support is just one of many factors that could lead a performer to choke or excel under pressure. In the final section of this paper, we discuss some of the variables that may moderate the relationship between audience support and performance under pressure.

Home choke moderators

The relationship between audience support and performance is complicated. Our predictions regarding the influence of audience support on performance under pressure certainly do not apply uniformly to all individuals. A number of different individual difference variables may play roles in determining how people perform in response to audience support.

One of the factors most likely to determine how people respond to audience support is the performer's prior experience performing for audiences. Prior experience with a supportive audience may reduce the degree of performance pressure felt in association with a supportive audience. People generally adapt to the circumstances they typically face, even if those circumstances are quite demanding and stressful by objective standards. If a performer is accustomed to performing with either an unsupportive or a supportive audience, being exposed to the alternative form of audience should have a greater impact on performance. Thus, if the performer is accustomed to performing with supportive audiences, the impact of an unsupportive audience on the performer might be more dramatic than the effects of a supportive audience. But even when performers chronically feel high performance pressure as a result of audience support, with sufficient experience they may develop effective strategies of coping with this pressure. For example, a golfer who found that his hands trembled whenever an audience was present might learn to adjust his club grip to minimize the negative impact of tremors on his swing. It is noteworthy that in the President's Cup example described earlier, Tiger Woods and Ernie Els apparently did not choke despite feeling extraordinary performance pressure (both made their shots when faced with a make-or-lose shot during the playoff). Presumably, choking under pressure effects related to supportive audiences should be most apparent among amateurs unaccustomed to performing with audiences. It is also worth noting that prior experience performing under pressure is most helpful when the prior experience resulted in a positive outcome. If the prior experience involved a miserable performance outcome, the performer's confidence and performance might be lower in future contests with a supportive audience than they would be during the first performance with a supportive audience (e.g. Seta & Hassan, 1980).

Another variable that may moderate the relationship between audience support and performance is the performer's level of social support received when he or she is not performing. Social support has been found to buffer the harmful effects of stress in general (e.g. Cohen & Wills, 1985), but social support may be especially helpful in preventing or reducing negative effects of performance pressure when one of the sources of pressure is audience support. If performers already have a network of non-contingent social support outside of their performance arena, they should care less about the level of support they receive from audiences and therefore should be less vulnerable to choking under audience-related pressure.

The fact that choking under pressure has consistently been linked with too much self-attention suggests that individuals' chronic disposition towards self-focus may influence their susceptibility to choking. Indeed, Baumeister (1984) found that people with chronically high self-consciousness were less susceptible to choking under pressure on a novel skill task, presumably because they were so accustomed to performing in the state of high self-focus that performance pressure induces. Heaton and Sigall (1991) found that people low in dispositional self-consciousness tended to choke on a timed psychomotor task when disappointing the audience was likely, whereas highly self-conscious individuals were less affected by the audience. In addition, Beilock and Carr (2001) found that training people to perform under states of high self-consciousness eliminated choking during laboratory golf putting challenges.

Individual differences in self-handicapping tendencies should also predict performance in response to audience pressure. Most people who self-handicap do so to provide an excuse in case of failure (Elliot & Church, 2003). When the audience is supportive, self-handicappers may be especially motivated to

claim or create impediments to their success – then again, uncommon pressure induced by supportive audiences could conceivably create more of an increase in self-handicapping behaviour among those who do not normally feel compelled to self-handicap.

Self-esteem differences are also likely to moderate the influence of audience support on performance. Research suggests that self-esteem serves as a protective emotional buffer against the ego-threatening implications of failure (e.g. Greenberg *et al.*, 1993; Johnson, Vincent, & Ross, 1997; Lane, Jones, & Stevens, 2002). Therefore, individuals with high, stable self-esteem might be less concerned about protecting themselves from failure than are people with low or fragile self-esteem (Baumeister, Tice, & Hutton, 1989). This concern should make people with low self-esteem especially prone to displaying maladaptive overcautiousness in their approach to performance under the pressure of a supportive audience.

Many other personality variables undoubtedly play a role in predicting the relationship between audience support and performance, but we are particularly intrigued by the possibility that individual differences in narcissism predict performance under audience pressure. The stereotype of the star athlete in many big-time sports has increasingly incorporated the arrogant, selfish and grandstanding qualities associated with narcissism. The fame, glory and money awarded to athletes competing at the highest levels of popular sports may certainly breed narcissism, but the narcissism shown by top athletes may also contribute to their success. Note that when we refer to narcissists, we are not describing individuals diagnosed with narcissistic personality disorder, a rare and undeniably maladaptive clinical condition. Instead, we take the common approach of treating narcissism as a personality trait – the narcissists we describe are reasonably ''normal'' people who simply possess relatively more narcissistic qualities than others.

Several of the defining characteristics of narcissism seem relevant to the topic of performance under audience pressure, most notably narcissists' inflated self-appraisals, their chronic self-glorification striving, and their lack of concern for others except as sources of admiration. These facets should help people with relatively high levels of narcissism to avoid choking under the pressure of a supportive audience. The relationship between narcissism and performance has received little research attention, but the results of studies by Wallace and Baumeister (2002) were consistent with the hypothesis that narcissists excel when the performance stakes are highest. For example, participants in one study who were informed that their dart-throwing task was designed to detect choking under pressure tended to perform better if they had high narcissism scores.

Narcissists think of themselves as special people with the capabilities to accomplish special things, even when reality challenges their self-appraisals (Emmons, 1984). To feel performance pressure, performers must feel uncertain of their ability to achieve their performance goal. Narcissists may be less susceptible to performance pressure because, when faced with setbacks, they should tend to maintain confidence that their performance will yield the outcome they desire.

The motivation of narcissists should also help them to excel under the pressure of a supportive audience. Narcissists are glory-seekers – they seek out opportunities for self-promotion and they avoid situations that provide no such opportunities (Wallace & Baumeister, 2002). Baumeister and Vohs (2001) proposed that narcissism may best be characterized as an addiction to self-esteem in the sense that narcissists are obsessed with demonstrating their personal superiority, especially when others are present to observe their greatness. The presence of an audience enhances the extent to which performance success is glorifying, and glory potential is maximized during the decisive moments of the most important performance contests. In sum, narcissists, like most people, should be highly motivated to excel when performing tasks with the potential to produce a prized outcome. But unlike many people, narcissists should not become overly concerned about the prospect of failure at the moments when present performance determines the performance outcome. Indeed, achievement motivation research has shown that narcissists are oriented towards approaching performance success rather than avoiding performance failure (Elliot & Thrash, 2001).

Our prediction that the motivational orientation of narcissists helps them to avoid choking under pressure is not rooted solely in our argument that narcissism may facilitate performance under pressure. The flip side is that narcissists should perform relatively poorly when performance pressure (i.e. the potential for glory) is low. Choking implies sub-par performance under pressure, compared with one's performance in conditions of low pressure. Narcissists should avoid the appearance of having choked under pressure in part because they are lousy performers when the pressure is *not* on. Narcissists calibrate their concentration and effort according to perceived opportunity for glory: If no glory opportunity is detected, narcissists lose interest and perform below their capabilities (see Wallace & Baumeister, 2002). In other words, given sufficient motivation, narcissists can easily exceed the lacklustre performance standards they set when potential for glory is lacking.

Another aspect of narcissism that should help narcissists to avoid the performance problems we

have linked with supportive audiences is their lack of concern for other people. Narcissists tend to associate with others for the purpose of exploiting them. Narcissists use other people for self-enhancement purposes, but they have low empathy and are more concerned about being admired than liked (e.g. Campbell, 1999). This suggests that narcissistic performers may not care much about whether they receive audience support or not, as long as the audience is present and attentive to their performance. Moreover, narcissists should not be concerned about the prospect of disappointing supportive audiences. As a result, their performance should be relatively unaffected by the failure anxiety that supportive audiences sometimes promote.

Although there are several reasons why narcissism can benefit performance under audience pressure, it is not difficult to think of circumstances in which narcissism may predict poor performance outcomes when audiences are present. The fact that narcissists underestimate their limitations may not be a problem in some situations, but at other times narcissists' overconfidence may lead to failure. Also, to the extent that performance success demands that performers sacrifice opportunities for personal glory for the benefit of the team, narcissism would clearly not be considered an asset.

Readers should note that, although we devoted far more attention to narcissism than the other potential individual difference moderators in this section, this unbalanced treatment should not be interpreted as a suggestion that narcissism is necessarily a better predictor of performance under pressure than the other moderator variables mentioned. We focused on narcissism because past research has already examined in some depth how performance can be influenced by differences in self-esteem, self-handicapping, self-consciousness and social support, whereas few studies have considered the connections between narcissism and performance. Our extended treatment of narcissism reflects our interest in the connections between narcissism and responses to audience support, as well as our goal of presenting theoretical platforms for novel future research.

Conclusion

We have proposed that many sports performances depend on mixtures of effort and skill, and the effects of supportive audiences differ according to whether the task primarily involves effort or skill. The supportive audience may boost effort, making players reluctant to quit or withdraw effort even when discouraged, and in that way home fields and supportive audiences can generally increase performance. Skill, in contrast, is more vulnerable to impairment, especially when self-focused attention is directed to inner processes that normally proceed by automatic, overlearned, non-conscious execution. Supportive audiences should often increase self-focused attention. Hence, typical college student experiment participants may exhibit broad patterns of performance impairment as a result of having supportive audiences (Butler & Baumeister, 1998). Accomplished athletes, in contrast, are probably more accustomed to being the centre of attention while performing and hence with coping with self-focused attention, but even they may be susceptible to choking under extreme conditions, such as when playing for the championship at home.

Athletes and other performers generally prefer to play in their home venues, in part because they can count on a supportive audience. Supportive audiences are often beneficial to performance, but we have also provided evidence that sometimes they can be detrimental to performance. Any comprehensive theory about the effects of the home field on sports performance will need to account for both the benefits and the occasional harm that supportive audiences can cause. At present, however, such a model would necessarily be highly speculative, given the state of the research on the topic. To gain a better understanding of the links between audience support and performance under pressure, researchers will need to devote more attention to studying performers' responses to audiences as they occur. Ideally, such research would include a combination of qualitative studies designed to capture performers' perceptions and emotions in naturalistic settings, as well as basic, internally valid laboratory experiments that allow systematic manipulations of audience factors and performance elements. We hope that the arguments presented in this paper and the other articles in this special issue will serve to inspire a new wave of research on this neglected but worthy topic.

Acknowledgement

We thank Harry J. Wallace for his insightful feedback during the preparation of this manuscript.

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., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of General Psychology*, *5*, 323–370.

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., Hutton, D. G., & Cairns, K. J. (1990). Negative effects of praise on skilled performance. *Basic and Applied Social Psychology*, *11*, 131–148.

Baumeister, R. F., & Showers, C. J. (1986). A review of paradoxical performance effects: Choking under pressure in sports and mental tests. *European Journal of Social Psychology*, *16*, 361–383.

Baumeister, R. F., & Steinhilber, A. (1984). Paradoxical effects of supportive audiences on performance under pressure: The home field disadvantage in sports championships. *Journal of Personality and Social Psychology*, *47*, 85–93.

Baumeister, R. F., Tice, D. M., & Hutton, D. G. (1989). Self-presentational motivations and personality differences in self-esteem. *Journal of Personality*, *57*, 547–579.

Baumeister, R. F., & Vohs, K. D. (2001). Narcissism as addiction to esteem. *Psychological Inquiry*, *12*, 206–210.

Beilock, S. L., & Carr, T. H. (2001). On the fragility of skilled performance: What governs choking under pressure? *Journal of Experimental Psychology: General*, *130*, 701–725.

Berglas, S., & Jones, E. E. (1978). Drug choice as a self-handicapping strategy in response to non-contingent success. *Journal of Personality and Social Psychology*, *36*, 405–417.

Bond, C. F., & Titus, L. J. (1983). Social facilitation: A meta-analysis of 241 studies. *Psychological Bulletin*, *94*, 265–292.

Bray, S. R., Jones, M. V., & Owen, S. (2002). The influence of competition location on athletes' psychological states. *Journal of Sport Behavior*, *25*, 231–242.

Bray, S. R., & Widmeyer, W. N. (2000). Athletes' perceptions of the home advantage: An investigation of perceived causal factors. *Journal of Sport Behavior*, *23*, 1–10.

Butler, J. L., & Baumeister, R. F. (1998). The trouble with friendly faces: Skilled performance with a supportive audience. *Journal of Personality and Social Psychology*, *75*, 1213–1230.

Campbell, W. K. (1999). Narcissism and romantic attraction. *Journal of Personality and Social Psychology*, *77*, 1254–1270.

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, *98*, 310–357.

Courneya, K. S., & Carron, A. V. (1992). The home advantage in sport competitions: A literature review. *Journal of Sport and Exercise Psychology*, *14*, 13–27.

Craft, L. L., Magyar, T. M., Becker, B. J., & Feltz, D. L. (2003). The relationship between the Competitive State Anxiety Inventory-2 and sport performance: A meta-analysis. *Journal of Sport and Exercise Psychology*, *25*, 44–65.

Elliot, A. J., & Church, M. A. (1997). A hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology*, *72*, 218–232.

Elliot, A. J., & Church, M. A. (2003). A motivational analysis of defensive pessimism and self-handicapping. *Journal of Personality*, *71*, 369–396.

Elliot, A. J., & McGregor, H. A. (2001). A 2 × 2 achievement goal framework. *Journal of Personality and Social Psychology*, *80*, 501–519.

Elliot, A. J., & Thrash, T. M. (2001). Narcissism and motivation. *Psychological Inquiry*, *12*, 216–219.

Emmons, R. A. (1984). Factor analysis and construct validity of the Narcissistic Personality Inventory. *Journal of Personality Assessment*, *48*, 291–300.

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.

Greenberg, J., Pyszczynski, T., Solomon, S., Pinel, E., Simon, L., & Jordan, K. (1993). Effects of self-esteem on vulnerability-denying defensive distortions: Further evidence of an anxiety-buffering function of self-esteem. *Journal of Experimental Social Psychology*, *29*, 229–251.

Heaton, A. W., & Sigall, H. (1991). Self-consciousness, self-presentation, and performance under pressure: Who chokes, and when? *Journal of Applied Social Psychology*, *21*, 175–188.

Isen, A. M., Nygren, T. E., & Ashby, F. G. (1988). Influence of positive affect on the subjective utility of gains and losses: It's just not worth the risk. *Journal of Personality and Social Psychology*, *55*, 710–717.

Johnson, E. A., Vincent, N., & Ross, L. (1997). Self-deception versus self-esteem in buffering the negative effects of failure. *Journal of Research in Personality*, *31*, 385–405.

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, *47*, 263–291.

Lane, A. M., Jones, L., & Stevens, M. J. (2002). Coping with failure: The effects of self-esteem and coping on changes in self-efficacy. *Journal of Sport Behavior*, *25*, 331–334.

Lewis, B. P., & Linder, D. E. (1997). Thinking about choking? Attentional processes and paradoxical performance. *Personality and Social Psychology Bulletin*, *23*, 937–944.

Muraven, M., Tice, D. M., & Baumeister, R. F. (1998). Self-control as a limited resource: Regulatory depletion patterns. *Journal of Personality and Social Psychology*, *74*, 774–789.

Nevill, A. M., Balmer, N. J., & Williams, A. M. (2002). The influence of crowd noise and experience upon refereeing decisions in football. *Psychology of Sport and Exercise*, *3*, 261–272.

Nevill, A. M., & Holder, R. L. (1999). Home advantage in sport: An overview of studies on the advantage of playing at home. *Sports Medicine*, *28*, 221–236.

Rawsthorne, L. J., & Elliot, A. J. (1999). Achievement goals and intrinsic motivation: A meta-analytic review. *Personality and Social Psychology Review*, *3*, 326–344.

Schlenker, B. R., Phillips, S. T., Boniecki, K. A., & Schlenker, D. R. (1995). Championship pressures: Choking or triumphing in one's own territory? *Journal of Personality and Social Psychology*, *68*, 632–643.

Seta, J. J., & Hassan, R. K. (1980). Awareness of prior success or failure: A critical factor in task performance. *Journal of Personality and Social Psychology*, *39*, 70–76.

Sports Illustrated Online (2003, 23 November). *Fit to be tied: U.S. and internationals to share Presidents Cup after three playoff holes* (http://sportsillustrated.cnn.com: accessed 23 November).

Strauss, B. (2002). Social facilitation in motor tasks: A review of research and theory. *Psychology of Sport and Exercise*, *3*, 237–256.

Terry, P. C., Walrond, N., & Carron, A. V. (1998). The influence of game location on athletes' psychological states. *Journal of Science and Medicine in Sport*, *1*, 29–37.

Triplett, N. (1898). The dynamogenic factors in pacemaking and competition. *Journal of Psychology*, *9*, 507–533.

Wallace, H. M., & Baumeister, R. F. (2002). The performance of narcissists rises and falls with perceived opportunity for glory. *Journal of Personality and Social Psychology*, *82*, 819–834.

Woodman, T., & Hardy, L. (2003). The relative impact of cognitive anxiety and self-confidence upon sport performance: A meta-analysis. *Journal of Sports Sciences*, *21*, 443–457.

Wright, E. F., & Jackson, W. (1991). The home-course disadvantage in golf championships: Further evidence for the undermining effect of supportive audiences on performance under pressure. *Journal of Sport Behavior*, *14*, 51–60.

Wright, E. F., & Voyer, D. (1995). Supporting audiences and performance under pressure: The home-ice disadvantage in hockey championships. *Journal of Sport Behavior*, *18*, 21–28.