

Type of Play, Temporal Position, Salience, and Attentional Focus of Sport Spectators

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The focus of attention affects the information available when making assessments of performance and when attributing responsibility for the outcome of an athletic play or contest. The current study tested the hypotheses that: (a) The type of play viewed would affect sport spectators' attentional focus, with certain plays leading to more internal focus, (b) the temporal position of the play would affect sport spectators' attentional focus, with earlier plays leading to more internal focus and later plays leading to more external focus, and (c) the effects of greater actor focus and a differential level of that actor focus as a function of type of play or temporal position seen in Wann and Steele's (1998) prior study would be replicated. These hypotheses were tested by having participants view 1 of 4 differently ordered series of 4 video clips depicting football plays. Participants then stated their focus of attention following each clip. The results supported each hypothesis.

THE FUNDAMENTAL ATTRIBUTION ERROR IS THE tendency of individuals to attribute others' behavior to internal causes (i.e., trait characteristics) more than external or situational causes (Penrod, 1983). Research in social psychology has suggested that the fundamental attribution error may be a function of the salience of the actor in the perceiver's visual field (Arkin & Duval, 1975; Storms, 1973; Taylor & Fiske, 1975). The attention of an individual viewing an "actor" performing a task or behavior is typically narrowly focused on the actor rather than on the surrounding environment. The actor is, then, the most salient aspect of the environment and more likely to be viewed as responsible for the outcome of the situation. Wann (1997) applied this actor/observer phenomenon to the arena of sport psychology, suggesting that the player in possession of the ball is the most salient aspect of the environment as viewed by sport spectators. This player is thus held responsible for his or her behavior to the extent of an overemphasis in attributions made by spectators. Conversely, the less salient aspects of the environment (e.g., coaches, other players, other spectators) are underemphasized in attributions made concerning the outcome of the play. This uneven division of attention and, consequently, attribution can

result in a tendency for spectators to display the fundamental attribution error. Therefore, it is likely that spectators would hold the player in possession of the ball more responsible for the outcome than other aspects of the environment.

Wann and Steele (1998) investigated the focus of sport spectators viewing an athletic contest by showing a video of four football plays to participants, then asking them to report their attentional focus after each play. The results were consistent with related research (Arkin & Duval, 1975; Storms, 1973; Taylor & Fiske, 1975) and Wann's (1997) hypothesis. Specifically, participants focused significantly more on the player with the ball than other, less salient, aspects of the environment.

The Wann and Steele (1998) investigation yielded an unexpected finding: Participants reported a decrease of actor focus as the series of plays progressed. The authors offered two potential explanations of the progressive decrease in actor focus. First, because the

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plays were different (i.e., interception and run, run to one-yard line, kickoff, and quarterback sack), possibly there were differential levels of actor salience. If the plays were increasingly lower in actor salience (ordered sequentially by chance), it may have caused the steady decrease in actor focus. A second possible explanation involves the model of attribution proposed by Gilbert and his colleagues (Gilbert, 1995; Gilbert, Pelham, & Krull, 1988). This theory states that internal attributions are more automatic and require less attention and effort than external attributions. External attributions, on the other hand, are expected to be formed with the presence and use of good information about the situation and when the perceiver's attention is not distracted. Gilbert (1995) argues that, because external attributions are made only with greater attentional focus and effort, distraction will lead to a reliance on the already formed more automatic internal attributions. In applying this theory to the present problem, it appears that the initial distraction, or cognitive busyness caused by the novel testing environment and task could have caused more internal attributions to be formed at the beginning of the testing session (Gilbert et al., 1988). Effortful external attributions would have formed only after participants had adapted to the new surroundings. That is, as the video continued, participants may have become more familiar with the testing room and the components of the target game (e.g., playing field, uniforms, and location). Once able to devote more attention and cognitive energies to the task at hand, participants were more likely to make effortful external attributions.

The present study was designed as a test of these competing explanations. More specifically, the competing hypotheses examine the extent to which: (a) Wann and Steele's (1998) findings were a function of spectators' tendencies to focus on the actor in certain types of plays more than in others, versus (b) the results were affected by the temporal position of the play, with attention being more likely to be actor focused during the earlier plays and more externally focused in the later plays. Though these hypotheses were in competition with one another, they are not necessarily mutually exclusive. In addition to these competing hypotheses, a replication of Wann and Steele's results was expected. Specifically, the present study predicted that spectators would tend to focus on the actor more than other aspects of the sport environment.

Method

Participants

Participants consisted of 65 university students (32 men, 33 women) receiving extra credit in their

Introductory Psychology course in exchange for participation. Mean age of the students was 21.00 years ($SD = 3.16$, range = 18–34). Participants' academic classifications were: 25% freshmen, 23% sophomores, 21% juniors, and 31% seniors.

Procedure

Participants were tested in small groups ranging from three to six individuals. On entering the testing room, participants were asked to read and given an opportunity to sign an informed consent document. After the consent forms had been signed and returned to the experimenter, participants were given instructions for the testing session. Participants were informed that after completing a short demographic questionnaire, they would be asked to watch a short video series of college football plays and to respond in writing to the video as it was played. Although participants were not given specific instructions not to talk, no communication or interactions were observed between participants during any of the testing sessions.

Once participants understood the procedure, a two-page questionnaire packet was distributed. The first portion of the packet contained a demographic inventory, including age, sex, year in school, degree to which they considered themselves to be a sport fan, and degree to which they considered themselves to be a football fan. The degree of sport fandom and football fandom items were in Likert-scale format with anchors ranging from 1 (*I am not at all a sport/football fan*) to 8 (*I am very much a sport/football fan*).

On completion of the demographic page, participants were asked to turn to the second page of the questionnaire packet. This page contained four items asking the participants to report their attentional focus for a specific part of the video clip. These items were worded in the following manner: "My attention was focused on ____." After participants had turned to the second page of the questionnaire packet they were told that the video portion of the study would begin. The researchers reminded participants that they would be viewing a few segments from a college football game and that following each segment they would be asked to state their attentional focus for that segment.

Participants were then shown the first of four football video clips. The sound was turned off to eliminate the influence of the announcers. The clips involved a NCAA Division I game between the University of Tennessee and the University of Alabama. Totalling 1 min and 26 s in length (including pauses between plays) the clips involved a series of the same four plays in different orders. The varying orders were

set up in a Latin square format to test for the competing play effect and the order effect hypotheses. Play A, lasting 8 s, was an 83-yard interception return for a touchdown. There were between 2 and 10 players on the screen as well as several referees and individuals along the sideline. Play B, lasting 4 s, was a 5-yard handoff in which the runner was stopped at the 1-yard line. There were between 5 and 19 players on the screen, as well as several referees and individuals along the sideline. Play C, lasting 7 s, was a 16-yard kickoff return. There were between 2 and 17 players on the screen, as well as several referees, individuals along the sideline, and thousands of spectators in the stands (this was a high-camera, wide-angle shot). Play D, which lasted 5 s, was a quarterback sack resulting in a 7-yard loss. There were between 3 and 19 players on the screen, as well as several referees. The plays were separated by pauses lasting approximately 20 s. During the pauses and after the final play, the participants completed the attentional focus items found on page 2 of the questionnaire packet (one item per segment).

When the participants had completed the final attentional focus item, the video monitor was turned off and the questionnaire packets were collected. Participants were then debriefed as to the nature and hypotheses of the research and were excused from the testing session. The entire procedure lasted approximately 15 min per group of participants.

Results

In Wann and Steele's (1998) earlier study, the four plays were always presented in the same order (i.e., ABCD). Because the order was never varied, it was impossible to distinguish between what might be an order effect or a play effect. The plays in the current study, as mentioned earlier, were presented in a Latin square format so that each play was presented before and after each other play once (i.e., ABCD, BCDA, CDAB, DABC). This technique allowed the researchers to test for order effects as well as play effects, because plays were all presented once, but never in the same order.

Because four participants had incomplete data, we removed their responses from the final sample of 61 participants (31 men, 30 women). The remaining data were examined by encoding responses in one of three ways: actor focus (i.e., attention directed toward the player with the ball), external focus (i.e., attention directed toward something or someone other than the player with the ball), or both actor and external focus. Examples of actor focus responses included "the guy running the ball" and "the player that intercepted the ball" (Play A), "the guy running

for the touchdown" and "#25 scores a touchdown" (Play B), "the guy who caught and ran the ball" and "the guy receiving the ball" (Play C), and "the guy getting sacked" and "quarterback" (Play D). Examples of the external responses included "the ball" and "referee and people on sidelines" (Play A), "the guy in the white that fell" and "the defense" (Play B), "the defensive players" and "the blockers" (Play C), and "the people tackling for the ball" and "the color of [the] jerseys" (Play D). Examples of the both category included "guy in orange jersey running eventually tackled" and "on Tennessee scoring" (Play A), "on the handoff" and "the pileup" (Play B), "kickoff return play" and "the blockers in front of the person carrying the ball" (Play C), and "the pileup" and "the guy in white knocking down the guy in orange" (Play D).

We examined the replication hypothesis with tests of proportions on the different percentages between actor-focused responses and external-focused responses. This analysis was collapsed across both play type and temporal position of play. Replication of the effect found in Wann and Steele's (1998) earlier study was successful as actor-focused responses (53.5%) far outweighed external responses (21.9%), $z = 3.72$, $p < .001$.¹ We rated the hypothesis that certain types of plays have more actor salience than others with tests of proportions on the different percentages of actor and external focus for the four plays. This analysis was collapsed across temporal position of the plays (see Table 1). The focus of participants' attention was significantly more actor focused in Play A (64.6%), the interception for touchdown, than in Play D, the quarterback sack, (40.0%), $z = 2.80$, $p < .01$. No other significant differences were found between plays. These results support the hypothesis that different types of plays affect focus of attention, suggesting certain plays have greater actor salience than others and may elicit more internal attention.

We also tested the hypothesis that earlier plays would lead to more actor-focused attention than later plays with tests of proportions. This analysis was collapsed across the types of plays. The percentages for this analysis can be seen in Table 2. Comparisons between the first chronologically presented play and the fourth presented play showed a significantly greater actor focus in the first (63%) than in the

¹The effect of three subject variables on the attentional focus percentages were also examined: sex, degree of sport fandom, and degree of football fandom. The high and low sport fan and football fan groups were constructed through the use of a median split performed on these variables. No percentage differences were found between men and women, high and low sport fans, or high and low football fans. As a result, all analyses were constructed across these variables, as in Wann and Steele (1998).

TABLE 1

Percentage of Responses Indicating an Actor, External, or Both Focus of Attention by Play

	Focus of attention		
	Actor	External	Both
Play A Interception for TD	64.6	16.9	18.5
Play B Run stopped at goal	53.8	21.5	24.6
Play C Kickoff return	55.4	23.1	21.5
Play D Quarterback sack	40.0	26.2	33.8
Mean of the four plays	53.5	21.9	24.6

fourth (46.2%), $z = 1.97$, $p < .05$. There was also a significantly larger proportion of actor focus in the first presented play than in the third (46.2%), $z = 1.97$, $p < .05$. No other significant differences were found. These results, then, support the hypothesis that temporal positioning affects focus of attention, suggesting that attention would be more internally focused earlier in the viewing of an athletic contest and more externally focused later. Both the type of play and the temporal position hypotheses were supported by the results of the analyses. It is not surprising the play with the lowest actor focus was the quarterback sack in the fourth temporal position (40%).

Discussion

The finding that spectators were significantly more likely to focus on the actor in certain types of plays and focus more externally in others supports the type-of-play hypothesis. This finding suggests that different plays exhibit varying levels of actor salience. The interception play had more actor salience than the quarterback sack—in which the actor and the

TABLE 2

Percentage of Responses Indicating an Actor, External, or Both Focus of Attention by Temporal Order of Clip

	Focus of attention		
	Actor	External	Both
First	63.1	21.5	15.4
Second	58.5	16.9	24.6
Third	46.2	29.2	24.6
Fourth	46.2	20.0	33.8
Mean of the four plays	53.5	21.9	24.6

other stimuli had, assumedly, more equivalent salience. As already noted, the fourth play had one of the fewest numbers of objects in the perceptual field, and thus should have had more actor salience if it were based solely on prominence of the player with the ball. Perhaps the level of activity or effectiveness is a factor mitigating the salience of the actor (Wann & Steele, 1998). Possibly the actor's ineffectiveness in attaining his goal in the quarterback sack mitigated attention to him and elicited a wider range of focus to include the defensive players. This finding offers new insight into the attributional process. If the type or success of a play in an athletic contest can affect the attention of a spectator and thereby attribution, then the type or success of action in other social activities—such as job performance, acting, dancing, public speaking, etc.—may affect attention and attribution in a predictable way. This understanding might allow categorization of such activities and a foreknowledge of attentional and attributional patterns typically associated with them.

The significant difference found between the first and fourth shown plays (as well as the difference between the first and third) not only suggests that earlier attentional foci will be more internal than later foci, but also offers support for and additions to Gilbert and colleagues' attributional theory (Gilbert, 1995; Gilbert et al., 1988). The viable application of this theory to the realm of sport spectators could produce exciting results not only in research, but in applied settings as well. Imagine an advertising firm trying to locate their advertisement where it will be most effective during a television program. If the ad is made with information designed to elicit an internal attribution (e.g., political campaign ads), an earlier slot might be more effective, whereas a later slot might more effectively communicate information designed to elicit an external attribution. Further study is necessary to predict such generalizability; but, if the results of such research corroborate the present results, the effort would be well spent. Further study using different operational definitions of attentional focus could also lend more validity to the current study. Wann and Steele (1998) are the only researchers to assess the attentional focus of sport spectators; they operationally defined it by self-report methods. The present study used the same operational definition to allow valid replication of the effects observed by Wann and Steele.

The replication of Wann and Steele's (1998) study gives further support to the findings of the present study in that the same effects were seen in two completely different samples of participants. The current study successfully tested and validated the two

main competing hypothetical explanations for the unexpected effect first seen in the previous study. Future research should not only attempt to replicate the validation of these hypotheses, but examine the component phenomena of each hypothesis (i.e., the effect of success of the actor on attention and attribution, and the effect of activity levels on attention, as well as other areas of application).

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