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Expectancy effects in tennis: The impact of body language and playing record on impressions of a tennis player and ratings of performance

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Abstract

This study examined the impact that pre-event body language and knowledge of a performer's playing record had on ratings of tennis performance. Participants (N = 123) were allocated to one of four experimental groups (good body language/bad body language vs. positive playing record/negative playing record) and viewed a *live* player warming up and completing a series of tennis shots. Information outlining the player's recent win/loss record was coupled with body language condition during a period of warm-up footage. Likert-type scales were employed to record impressions of the player and judgements as to the quality of the play. ANCOVA revealed that the player was viewed more favourably having displayed positive as opposed to negative body language ($p<.001$). Participants presented with a positive playing record ($p = .001$) formed a more favourable impression and rated the players performance more positively ($p = 0.001$). The study corroborates and extends the findings of recent work incorporating live models in expectancy effects investigations.

Key words: expectations, judgements, body language, playing record

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Expectations derived from cues detected early in social encounters have been posited to guide one's attention to, and processing of, subsequent target information. [1] A sound body of evidence now exists demonstrating that such expectancy effects are reliably witnessed in the sports arena. [2,3,4,5,6,7,8] More specifically, Buscombe et al., [5] have demonstrated that pre-event information (body language) can influence judgements of a tennis player and soccer penalty taker respectively. Employing video footage of a tennis player, Buscombe and colleagues showed that the body language displayed by the target individual prior to performing influenced judgements of that individuals physical performance thereafter. More recently, Buscombe and Greenlees [7] have shown that the impacts of pre-event information on ratings of a tennis player's performance are moderated by the conditions under which the judgement of that performer occurs. More specifically, Buscombe and Greenlees found that when under time pressure participants relied more extensively on early target information and thus became more susceptible to forming expectancy based judgements.

An individual's motivation to be accurate with their judgement has been proposed to moderate the extent to which a perceiver exhibits expectancy effects. [9, 10] When motivation is diminished a perceiver is posited to withdraw resources from an impression formation task and report judgements in line with his/her expectations of that individual. [11] In line with theoretical predictions, when subject to experimental manipulation, motivation has been shown to moderate expectancy based processing [12] although work published to date in the sports field has failed to account for the impact that this naturally occurring, extraneous variable may be having on the judgements being made of sports performers. [5]

Although expectancy effects have been studied with participants observing a 'real-life' university professor [13] and 'live' school children [14] research conducted in sport has, to this point, employed an approach whereby participants form judgements of sports performers based on either observation of recorded player footage [15, 5] or when viewing point-light displays. [6] Findlay and Ste-Marie [4] identified the "controlled video setting" (p.164) employed during their data collection to be a limitation of their study and supported the need for future work to consider expectancy effects when observing live performers. Buscombe and Greenlees [7] and Thelwell et al. [8] have also more recently called for future studies to investigate expectancy effects in *live* performance conditions. The purpose of the present study was therefore to investigate the impact that body language and knowledge of a performer's prior playing record have in influencing judgements of a real-life tennis player and ratings of that individual's performance.

It was hypothesised that when the participants viewed the target displaying positive body language they would form a more favourable impression of the player and rate the performer's play more favourably than when the player was seen displaying negative body language. It was also hypothesised that when presented with a positive prior playing record the participants would form a more positive impression of the player and rate the performer's play more favourably than when presented with a negative prior playing record.

Method

Participants

The participants (N = 123, Mean age = 23.7, SD = 6.0) self reported themselves to be physically active, Undergraduate students of which 76 were male and 47 female. The

participants recorded their ethnicity indicating that 67% of the group were British, 14% European, 3% Asian, 2% American, 7% African with the remaining 7% marking 'Other'. Of the sample, 40% reported experiencing tennis in a viewing capacity (M=7.62 years), 52% indicated a recreational involvement in tennis (M = 7.54 years), 4% regular tennis playing involvement (M = 8.49 years) and 4% reported being involved at a competitive level (M = 13.8 years). All participants were volunteers and signed informed consent forms prior to participation. Ethical clearance for the study was obtained from the second author's institution.

Measures

Motivation. The participants' motivation was self reported using three, nine-point Likert-type scales. The measure was completed immediately after the participants had finished reporting their judgements of the target's play. The questions included: 1) 'How motivated were you to form an accurate judgement of the player? 2) How important to you was it to make an accurate judgement of the player? and 3) How much of your attention did you devote to completing the task accurately? Questions 1 and 2 were anchored with 'Not at all motivated/important' and 'Highly motivated/important'. Question 3 was anchored with 'Very limited attention' and 'complete attention'. The scores from the three questions were summed to form an overall motivation score. A similar approach has been used successfully in previous research to record motivation during the completion of an impression formation task (Tetlock & Kim, 1987).

Impressions of Opponent. Impressions of the target player were recorded via eight, nine-point Likert-type scales. These scales were anchored with; has self-control-lacks self-control, self confident-lacks self confidence, energised-lethargic, focussed-not focussed,

assertive-non-assertive, decisive-not decisive, competitive-non competitive and dominates opponents-is dominated by opponents. The scores from the eight items were summed to form an overall impression score which was found to demonstrate high internal reliability (Cronbach α = 0.85). These items have also been employed previously to record impressions of tennis players.[5]

Ratings of the Target's Play. Perceptions of the target's play were recorded on seven aspects of performance using nine-point Likert-type scales. These dimensions included perceptions of the player's forehand, movement and speed around the court, footwork, power generated in his shots, accuracy and balance on court. The scales ranged from one to nine and were anchored in accord with the specific dimension being measured (e.g., 1=extremely slow/very limited power to 9=extremely fast/extremely powerful). A number of items were reversed in order to encourage the participants to attend to each scale individually. The measure demonstrated high internal reliability (Cronbach alpha, α = 0.85).

Procedure

Testing took place at a tennis facility situation in Central London. The facility housed one, full-size, regulation tennis court with tiered seating running the length of the court parallel to the tramline. Upon entering the tennis facility the participants were instructed to position themselves in one of two seating areas at one end of the tennis court. These seating arrangements ensured that the participants had an unobscured view of the playing area. Once seated the participants were informed that a male tennis player (target) was due to arrive at the facility shortly. Prior to the target player appearing the experimenter introduced the individual as being of similar age to the participants and having been recruited from a local tennis club. The

participants were informed that once the target player entered the facility the player would be carrying out a sequence of 20 tennis shots from which they would be required to rate the performer's play. At this stage questionnaires were administered to the participants which contained information about the player they were about to view and also the Likert-type scales. The participants were informed that they had from the moment the player comes in to view up to one additional minute after the player had left the facility to complete the questionnaire. This approach standardised the time that the participants received to complete the questionnaire.

The front sheet of the questionnaire pack provided generic information about the performer such as name, age, and the fact that the performer is still actively competing. In addition to this information details of the player's recent win-loss record and Lawn Tennis Association ranking were provided. Unbeknown to the participants two versions of the introductory player information were distributed. The participants received information indicating that the player had either "21 wins-5 losses in their last 26 matches and their LTA ranking had recently increased" (positive expectation, N=59) or that the player had "21 losses-5 wins in their last 26 matches and their LTA ranking had recently declined" (negative expectation, N = 64). The two versions of the questionnaire were administered simultaneously with participants in the same seating block receiving either the positive or negative expectancy information, respectively. The methodology employed and the creation of the expectancy conditions was thus identical to that which was successfully used by Kelley [13] when studying perceptions of a University lecturer.

In addition to receiving the positive or negative playing information the participants viewed the target player warming-up for a tennis match in one of two body language conditions. Body language was manipulated based on Weinberg's [17] guidelines with positive body language

consisting of the target walking and standing with his shoulders back, chest out, head up and looking directly at the audience (participants) for prolonged periods of time. The negative body language condition consisted of the target adopting a hunched posture, with head and chin pointing towards the ground with only an occasional glance towards the audience. The study design resulted in the construction of four experimental groups: 1) positive body language with positive prior playing information (N = 17M/13F), 2) positive body language with negative prior playing information (N = 17M/12F), 3) negative body language with positive prior playing information (N = 20M/8F), or 4) negative body language with negative prior playing information (N = 22M/14F).

The warm-up activities consisted of the same sequence of exercises in both body language conditions. The experimenter recorded via a digital wristwatch the total time the player was in view (300 secs) and the time taken by the target to warm-up (120 secs). Differences of 10 secs (total time in view) and 5 secs (time spent completing warm-up activities) were observed across the two testing sessions and post test follow-up indicated that the participants were not aware of the manipulation at the time of testing.

After the warm-up was complete a qualified tennis coach fed 20 balls to the performer in a pre-determined order of forehand and backhand strokes. The target player was briefed to hit two balls in the net, two balls out of the back of the court and return the remaining 16 balls aiming for a designated length marked by a coned area at the other end of the tennis court. This approach provided the participants with ambiguous performance information that was largely identical across both body language conditions. The target player was seen wearing the same clothing in both testing sessions. The target player displayed neutral body language during the

158 execution of his shots and approached the court from the same side, carried the same tennis
159 holdall and withdrew the same tennis racket from his bag.

160 **Data Analysis**

161 Independent samples t-tests indicated no significant differences between males and
162 females with respect to perceptions of play ($t_{(121)} = -1.50$; $p = .14$) or first impressions ($t_{(121)} = -$
163 1.35; $p = .18$). Based on these results the data was collapsed across gender in all subsequent
164 analyses. A one-way Analysis of Variance (ANOVA) indicated no significant differences
165 existed across the four experimental groups with respect to motivation score ($F(3, 122) = 1.33$;
166 $p = .27$). Second, Pearson correlation confirmed a significant relationship between motivation
167 (covariate) and, ratings of play ($r = .29$; $p = .001$), and impression score ($r = .20$; $p = .03$). Finally,
168 homogeneity of regression slope indicated no significant interaction between first impression
169 score or ratings of play and the four combinations of body language and expectancy condition
170 ($p > 0.05$). According to Field [18] the completion of these checks is an integral part of the
171 ANCOVA process.

172 Two separate 2 (positive body language vs. negative body language) x 2 (positive playing
173 record vs. negative playing record) ANCOVA's with total impression score and ratings of play
174 as dependent variables were computed. Total motivation score was entered as a covariate in
175 each separate analysis. All analyses were conducted with significance set at the $p<0.05$ level.

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Results

Impressions of the Target Player

ANCOVA indicated a significant main effect for body language, $F(1, 118) = 17.58$; $p<0.001$, and playing record, $F(1, 118) = 12.56$; $p = .001$). There was no interaction effect, $F(1, 118) = 1.85$; $p = .18$. Descriptive statistics displaying group differences for impressions of the target player are presented in Table 1.

INSERT TABLE ONE HERE

These results indicate that impressions of the target player were more positive having viewed the individual displaying positive (M = 52.9) as opposed to negative (M = 46.2) body language during the warm-up and when participants were presented with a positive (M = 52.4) as opposed to a negative (M = 46.7) prior playing record.

Ratings of the Target's Play

ANCOVA indicated a significant main effect for playing record, $F(1, 118) = 10.72$; $p = .001$). There was no body language main effect, $F(1, 118) = 3.25$; $p = .07$, and no interaction effect, $F(1, 118) = .52$; $p = .47$. Descriptive statistics displaying group differences for perceptions of play are presented in Table 1. These results indicate that the target's play was viewed more positively when the participants had been presented with a positive (M = 41.7) as opposed to a negative (M = 37.7) prior playing record.

Discussion

The results demonstrated that when presented with a positive prior playing record the participants formed more favourable first impressions and rated the target player's performance

more positively than when presented with a negative playing record. Furthermore, when the target player was seen displaying positive body language during the warm-up the participants reported more favourable impressions of the performer. However, the target's body language was not seen to influence ratings of that individual's performance. Overall, the results provide a further indication of the existence of expectancy effects in sport and lend support to the role that information presented pre-event or detected early in an encounter plays in influencing judgements of tennis players.

The present study supports the work of Greenlees, et al. [15] and Buscombe et al. [5] who reported similar body language effects when competitive tennis players formed judgements of a target performer from a period of video footage. The magnitude of the effect size ($\eta_p^2 = .13$) and power (.99) associated with this result supports the robustness of the finding. Importantly, the present study extends previous research findings in indicating that an athlete's body language may influence the impression being formed of a *live* performer. Overall, this result appears to support the suggestions of applied practitioners who propose that athletes should display positive body language in the moments leading up to a contest in order to portray a more favourable image to their opponent. [17] Future research should build on this finding by studying the affective and behavioural response of a perceiver to a real-life target athlete who is displaying either positive or negative body language. The results of this work would enable sports psychologists and coaches to develop a better understanding of the potential role that a performer's body language might play in shaping the outcome of *live* interactions in sporting dyads.

Although the hypothesised impact of body language on ratings of the target's play did not reach statistical significance, the data suggests that this result was converging towards a main

effect (p = .07). Given that the present study employed a real-life target performer as opposed to previous work which has utilised video footage [19, 20, 5] it can be proposed that the differing experimental set-ups may account for the variability evident in the results. The nature of forming real-life judgements may have served to increase a perceiver's interest in the task with the result that participants were more motivated, and devoted more attention to forming judgements of the performer. The mean motivation score of 19 (maximum possible score of 27) reported by the participants in the present study appears to lend support to these suggestions.

The results provide support for the *a priori* hypotheses that prior playing record would influence ratings of the target's play. More specifically, when presented with a positive prior playing record the participants formed more favourable judgements of the target's play than when presented with a negative playing record. These results build on the paper-based approach used in Miki et al.'s [3] research demonstrating that knowledge of an athlete's playing record may influence judgements of a real-life athlete's performance. In line with recommendations forwarded by Miki et al. [3] the current results support the suggestion that athletes should be educated to 'look beyond' the playing record or rating of an opponent in order to think more comprehensively about the best way to go about defeating that individual. Given that in the UK members of the Lawn Tennis Association can apply for a 'playing rating' which then becomes public appearing on the draw sheet at UK tournaments, and freely available on the internet the use of expectancy based processing may be widespread in competitive tennis in the UK.

The findings of the present study provide further evidence of the existence of expectancy effects in sport. Furthermore, this work provides the first indication in the extant literature that expectancy effects may exist when observing real-life sports performers. Further investigations might investigate the consistency of this effect when judgements are based on a range of

246 different sources of expectancy information, across a range of sports, and when female targets
247 are observed.

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Table 1.

Estimated marginal means and standard errors for impression score and ratings of play

	Impression Score			Ratings of Play		
	Positive Body Language	Negative Body Language	Total	Positive Body Language	Negative Body Language	Total
Positive Playing Record	56.76	48.00	52.38[b*]	43.21	40.20	41.70[c*]
	(1.59)	(1.66)	(1.15)	(1.20)	(1.25)	(.87)
	(N=30)	(N=28)		(N=30)	(N=28)	
Negative Playing Record	48.94	44.47	46.70[b*]	38.38	37.09	37.74[c*]
	(1.62)	(1.46)	(1.09)	(1.23)	(1.10)	(.83)
	(N=29)	(N=36)		(N=29)	(N=36)	
Total	52.85[a**]	46.24[a**]		40.79	38.64	
	(1.13)	(1.10)		(.86)	(.83)	

[a, b, c] indicates main effect comparisons

**denotes sig difference at $p<0.001$, *denotes sig difference at $p<0.05$