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Attributing To Positive And Negative Sporting Outcomes: A Structural Analysis

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ABSTRACT

Orthodox methodologies in sport- attribution research generally do not allow for variance in use of attribution *per se* to be investigated. Generally, attributions for pre- identified sporting outcomes are solicited from each athlete or research participant. Evidence is presented in this paper which shows a significant drop in attributions given for such events when specific prompts for explanation are removed. A qualitative methodology which allows athletes to 'freely' attribute to events of their own choosing is described. The method allows athletes to ascribe multiple causes to events (or multiple events to the same cause). Reliability data for coding texts in terms of explanatory function are provided. Results confirm previous evidence for an increased tendency to give explanations after negative outcomes, and are discussed in terms of the motivation of perceived control.

Introduction

Antaki (1988) calls attribution theory the "jewel in the crown" of social cognition, and provides the following definition: "this is a loose federation of principles which revolve around the notion that people seek explanations of the world around them […]" (p. 5). It has been established that these explanations follow certain biases and can be predicted (see reviews and collections of papers by Harris & Harvey, 1981; Harvey & Weary, 1984; Hewstone, 1983; Kelley & Michela, 1980). Testing predictions usually involves classifying attributions along dimensions proposed by Weiner (1974a; 1979; 1985; 1986). Weiner declared that the labelling of causal accounts was the “key to understanding of achievement strivings” (Weiner 1974b, p. 5) and originally proposed a two- dimensional model (Weiner, Frieze, Kulka, Reed, Rest, & Rosenbaum, 1971; Weiner, Heckhausen, Meyer & Cook, 1972). These two dimensions [stable/ unstable (Stability) and internal/ external (Locus)] remain common to most attribution research. Further dimensions of controllability (Forsyth & McMillan, 1981; Weiner, 1979) and globality (Abramson, Seligman & Teasdale, 1978; Peterson, Semmel, von Baeyer, Abramson, Metalsky & Seligman, 1982) have since been recognized.

In a sporting context, research most commonly involves scales developed from the Weiner tradition. Russell (1982) developed the Causal Dimension Scale (CDS), which has evolved into the most widely used tool in sport- attribution work, the Causal Dimension Scale II (CDS II: McCauley, Duncan & Russell, 1992). CDS II involves soliciting open ended attributions from participants and then instructing them to rate these on 9 point Likert- type scales (Likert, 1932) along attributional dimensions. Mark, Mutrie, Brooks and Harris (1984) subsequently state that “the flawed attributional measures used in the past” (the coding of attribution by researchers) have been replaced by “a more appropriate measure” (CDS). Others scales incorporating the Locus and Stability dimensions include the Performance Outcome Survey (Leith & Prapavessis 1989); the Modified Attributional Style Questionnaire (Prapavessis & Carron 1988) and the Sport- attributional Style Scale (SASS; Hanrahan, Grove & Hattie 1989).

In terms of independent variables, researchers have often looked at event types (e.g. success/ failure events [Bukowski & Moore, 1980; Carron, 1984], events with differing degree/ margin of failure [Scanlan & Passer, 1980a]), ambiguous events [Spink & Roberts, 1980]). In addition, they have attempted to find distinct groups of people to gather attributions from [i.e. female athletes (Blucker & Hershberger, 1983; Dabrowska, 1993; Scanlan & Passer, 1980b; Sheedy, 1983); people involved in individual sports (Mark et al., 1984; Partington and Partington, 2002); members of teams (Bird and Brame, 1978; Mroczkowska, 1997)]. Variance in attributions across these variables is then used to refine models of cognitive processes. For an outline of further ways in which attributional dimensions can be predicted using performance variables, see Biddle and Hanrahan, 1998; McAuley and Blissmer, 2002.

With such measures, outcomes for which attributions are made are generally predefined. These outcomes can be included in the scales (e.g. SASS), or can be ‘real life’ events. For example, McAuley et al. (1992) asked people to “identify the primary cause of their winning or losing and then to code that along causal dimensions” (p. 569). However, the focus on dimensional coding via fixed- response measures does not allow for the addressing of the wider questions of a) whether explanation will be forthcoming *at all* for a given event and b) whether athletes/ participants might link multiple causes and/or outcomes. This is important because it has been suggested that the act of attributing itself seems to be *strategic*. Specifically, the hypothesis that negative sporting outcomes generate a search for explanation (e.g. Weiner, 1986) cannot be investigated by *requiring* attributions of participants.

Little analysis of whether the supplying of one *or more* causal statements for an outcome might vary systematically has been undertaken (for a general discussion of “multiple explananda”, see White, 1992; 2000). Indeed some devices prohibit this and ask for the “single most likely cause” [for example, the CDS II (McAuley et al. 1992); the Short Form of the Sport-attributional Style Scale (Hanrahan & Grove 1990b p. 97)]. It is not usually possible [for example, see the CDS (Russell 1982); the Sport- attributional Style Scale (Hanrahan et al., 1989)] for more than one outcome to be ascribed to a single cause.

Two studies are described here. Study 1 demonstrates bias inherent in a 'standard' fixed-response attributional questionnaire. Study 2 describes work which allows for the structure of explanation (i.e. the way athletes link causes and outcomes) to be investigated via an interview-based methodology, as recommended by Biddle and Hanrahan (1998, p. 14) who state

"although some form of interview is commonplace for qualitative enquiry, it has, to our knowledge, not been used in attribution research in sport and exercise contexts. This is a gap in the literature that needs to be filled".

Study 1

Aims

The aim of this study was to investigate whether traditional sport- attribution questionnaires elicit attributions in the absence of specific prompting. This question was approached by examining responses to pre- supplied 'outcomes' in the short form of the Sport- Attributional Style Questionnaire (SASS, Hanrahan & Grove, 1990a; 1990b) after the scale was adapted so that participants were not *required* to attribute causes.

First, it was predicted that participants would not universally explain the events in question when not forced to do so by the research methodology. Thus there would be differences between the number of attributions made in this study and the number required by the traditional application of the scale (i.e. the number of participants multiplied by the number of scale items).

A secondary prediction was that there would be more attributions for negative than positive events, as found by Weiner (1986). Weiner found that unexpected, negative or important outcomes would generate a search for reasons for the outcome. Thus the negative events in the questionnaire might be expected to generate more attributions (despite no specific prompts) than the positive ones.

Method

The questionnaire used in this study was adapted from the short form of the Sport-attributional Style Questionnaire (Hanrahan & Grove, 1990a; 1990b). There are 10 items in the questionnaire, containing 5 negative and 5 positive events. The matched positive and negative items are as follows:

- *The coach compliments (criticises) your performance*
- *You are (not) selected for the starting team in an important competition*
- *The crowd cheers (boos) for you during a competition*
- *You perform very well (poorly) in a competition*

- *You have no (great) difficulty withstanding a demanding training session*

First, participants are asked to "vividly imagine themselves in the situation in question", then they are asked to write down the single most likely *cause* if that event happened to them (for this type of instruction, see also Peterson et al., 1982). Instructions given in this study were as the original questionnaire, with one important difference. Instead of being asked to attribute causality to the events in question, participants were simply instructed: *write down the first thing you think of* in relation to each event. Participants thus had a choice as to whether they explained events or not.

Participants and procedure

Participants were 58 first- year Sport Science students from the Scottish School of Sport Studies, University of Strathclyde, Glasgow. There were 39 males and 19 females in the sample. Mean age for females was 18.8 years old (*SD* = 1.46); mean age for males was 20.23 years old (*SD* = 4.51). Participants were not told the purpose of the study before filling in the revised SASS. They agreed to take part in the study and were read the questionnaire instructions. They were given the opportunity to ask questions, but declined to do so. After filling in the questionnaire, the rationale for the study was explained to the participants and once more questions were invited. Contact details were provided so that participants could follow up interest in the study if they wished.

Reliability trial

In order to demonstrate that attributions could be reliably identified (or not), a trial was conducted as follows. Three coders discussed how to code responses to a subset of questionnaires using the Leeds Attribution Coding System (LACS) manual (Stratton, Munton, Hanks, Heard, & Davidson, 1988). Some ambiguities were highlighted and decisions taken as to how to code these. A subset of 5 questionnaires (separate from those previously discussed) were coded independently (in separate rooms) by each coder. This gave 50 possible dichotomous (attribution/ no attribution) codes for each coder. No discussion or clarification was asked for or received during the trial itself. Contingency tables for each 'pair' of coders were drawn up (giving three tables in total). In this way 3 separate indices of concordance and Kappa coefficients (Cohen, 1960; Fleiss, 1971) were computed. The results for the three paired comparisons are shown in Table 1.

Table 1. Index of concordance and Kappa coefficients in reliability trial for Study 1.

Coding pair	**Index of concordance (%)**	**Kappa (K)**
Coders X and Y	43/ 50 (86%)	.714
Coders X and Z	41/50 (82%)	.632
Coders Y and Z	42/50 (84%)	.678
Average	*126/ 150 (84%)*	.675

It can be seen from Table 1 that the overall raw agreement was 84%, and the average Kappa coefficient was .675. Disagreement mainly centered on items from which attributions might be inferred. An example would be:

- You have no difficulty withstanding a demanding training session *Make it more demanding*

This response implies that the “no difficulty” could be explained by the sessions being too easy, though this is not stated explicitly. These cases were included as *attributional* in the main analysis. In this way, the test of the first hypothesis was as rigorous as possible, [i.e. there would be an increased chance of a “type II error” (Robson, 1993 p. 351)]. The final step was the recoding of all 58 interview schedules using the (consensual) definitions reached during the reliability trial.

Results of Study 1

In order to test the prediction that responses would be ‘less attributional’ than during normal use of the scale, the matched positive and negative events were included together, giving 10 possible attributions for each of the 58 participants, and 580 in total. The frequencies of the attributional responses (i.e. when an attribution was made for the supplied events in the usual manner) are shown in Table 2. Included for comparison are the expected frequencies from the normal use of the SASS, where one attribution per participant per item is required.

Table 2. Frequency of *unprompted* attributions given using the revised version of the SASS during Study 1 ($N = 580$).

Item	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Total**
Expected	58	58	58	58	58	58	58	58	58	58	580
Actual	31	3	7	4	26	8	28	4	21	25	157

It can be seen from Table 2 that 27% of cases (157 out of 580) generated an attributional response when this was not specifically demanded by the device. Statistical analysis of these results took place using the Chi- square goodness of fit test. The results of this analysis showed the drop in the number of attributions made when the SASS was revised so that attributions were not *required* by the instructions was significant ($X^2 = 242.780$; $df = 1$; $p < .001$). It should be noted that this effect holds true for both positive and negative items, despite a significant difference in the number of attributions made for each (see below). Both types of item generated significantly less explanation when participants were free to decide whether to explain them (with just 15% of positive items and 39% of negative items yielding an attributional response).

A secondary prediction was that negative items would generate more attributions than positive ones. The frequencies of the attributional responses for positive and negative items can be seen in Table 2, by noting the respective totals for odd numbered items (negative) and even numbered items (positive). 44 (28%) of the attributions given were made in relation to the positive questionnaire items, with 113 (72%) given for negative items. Once more, Chi- square analysis showed a significant difference with more attribution for negative events ($X^2 = 30.325$; $df = 1$; $p < .001$).

Discussion of of study 1

Hanrahan and Grove (1990a) describe the Sport- attributional Style Scale (SASS). This is a questionnaire which measures sport-related attributional style for both positive and negative events. The questionnaire was used here because it is typical in the field. Tests of the scale essentially show how reliable it is, with one proviso. Attributions are required of participants. As Lau and Russell (1980) recognise, "the use of closed- end rating scales to gather attribution data (as is typically done in attribution research) generally precludes the possibility of participants [..] simply not making causal attributions….". (p. 31). Antaki and Naji (1987) stressed that "Attribution work tends to address the information- processing mechanisms at work in the identification of causes for events. Questions about people's choice of *which* events to explain are currently relatively unresearched" (p. 119).

This study tested the simple question of whether, where responses *but not necessarily attributions* are required, the events supplied would be explained. A significant fall in the number of items explained was observed where explanation was not specifically requested. This effect was significant for both positive and negative items.

However, negative events did seem to prompt more attribution (i.e. to be *inherently* more 'consequential' than positive ones) in a way that confirms previous research (e.g. Weiner, 1986a). This result is further justification for not assuming attributions will be meaningful when 'forced' in relation to pre- supplied events. If there are biases in certain events in terms of the likelihood that they will be explained, then it seems inappropriate to make people attribute to positive and negative events *in equal measure*.

Finally, the most important result of this study may, paradoxically, be the fact that 'free response' attributions (albeit 'only' 157 for 580 supplied events) *were indeed identified*. If people will attribute without being 'forced' to do so, this seems to invalidate one basic rationale for using fixed response methodologies. This legitimizes attributional research which does not involve asking *why*?

Study 2

Aims

The aim of this study was to establish whether attributions could be identified reliably from transcripts of post- performance interviews which did not contain specific prompts for explanation. Importantly, single attributions for multiple outcomes (or vice versa) might then be analysed, in order to test the prediction that athletes would 'freely' offer more explanation after negative outcomes, as in study 1.

Method

The general methodology employed was that of semi- structured interview and qualitative data analysis, which was recently recognized as an under- used methodology in the sport- attribution field (Biddle & Hanrahan, 1998). Because of the lack of a standardized instrument for dealing with athletes' discourse, the methodology was adapted from that of Stratton et al. (1988), who designed the Leeds Attributional Coding System (LACS) in order to classify reliably attributions in discourse in a family therapy setting (see also Munton, Silvester, Stratton & Hanks, 1999; Stratton & Bromley, 1999). As in the LACS method: Interviews with participants were taped and data transcribed verbatim; criteria for attributional statements were developed so they could be identified in the transcripts; no direct prompts for attributional statements were made during interviews, so that, as far as possible, these could be described as ‘naturalistic’; reliability data are provided.

The process of identifying attributional items was adopted from the LACS. Stratton et al. (1988) state: “we are [..] searching the transcript for any cases in which there is a clear indication …about the cause of any kind of outcome” (p. 44). Stratton et al. (op. cit.) go on to describe how an attributional statement includes a cause, a link and an outcome. Antaki and Naji (1987) identified attributions based solely on variants of the “connective” (i.e. link) *because* (or ‘*cos*), arguing this is the most frequently used causal link (Altenberg, 1984). However, Harvey, Yarkin, Lightner and Town (1980) used “phrases or clauses denoting *or connoting* causality”. Similarly, in this case it was decided to include stated or *implied* causal relationships, because we cannot assume links will be explicitly causal [see Quirck, Greenbaum, Leech & Svartik (1985) for a comprehensive list of “causal connectives”]. In this way four types of attribution were identified (causal statements are in italics and links are underlined).

Type 1 <u>Single causal statement- link- single outcome statement</u>

This is the simplest model and is essentially the starting point for any attributional analysis. An example would be:

1. *it was raining*
2. so I played badly

Type 2 <u>Single causal statement- links- multiple outcome statement</u>

The second type of item still involves a single causal statement. An example would be:

1. *it was raining*
2. <u>so</u> I played badly
3. <u>and</u> then play was suspended

Note: 2 and 3 are coded as distinct outcomes of 1

Type 3 <u>Multiple causal statements- links- single outcome statement</u>

The third type of item now involves more than one causal statement. However, we now return to a case where we have a single outcome statement. An example would be:

1. *I was tired*
2. <u>and</u> *I was playing away from home*
3. <u>so</u> I lost

Note: 1 and 2 appear to go together to explain 3

Type 4 Multiple causal statements- links- multiple outcome statements

In type 4 items, more than one statement performs an explanatory function and more than one statement is explained. In the simplest case, a 'dual function' statement is both cause and outcome. An example would be.

1. *it was raining*
2. so *I played bad*
3. so (I) felt miserable

Note: 2 appears to be explained by 1 and, in turn, explains 3

Attribution Scores

A number can be computed for each type of attribution denoting the ratio of outcome to causal statements. The ratio is calculated by dividing *the number of outcome statements in an item by the number of causal statements used to explain them*. For each item, the Attribution Score is then: sum of outcome statements / sum of causal statements. Type 1 items by definition have a score of 1, as one causal statement is always matched by one outcome statement. Type 2 items have a score of > 1 (2 in the case shown). As there is only one causal statement, the denominator in the formula will be 1, and the score will equal the number of outcome statements. Type three items have a score of < 1 (.5 in the case shown). The number of outcome statements is one, thus the numerator will be 1 and the score will depend on the number of causal statements. Type four items can have a score which is 1, < 1 or > 1, depending on the number of causal statements and outcome statements involved. The simplest form of Type four item shown has a score of 1 (two each of causal and outcome statements).

Reliability trial

As in the previous trial, coders operated independently (in separate rooms). No discussion or clarification was asked for or received during the trial itself. Three coders (the principle researcher (coder X) and two research assistants (coders Y and Z) discussed a subset of interview transcripts in terms of the definitions of attributional items in LACS. Some ambiguities were highlighted and decisions taken as to how to code these. Coder X proceeded to code all transcripts. Coders Y and Z were then presented with groups of statements containing 16 attributional items (as originally coded) and asked to decide how causal and outcome statements were linked. Contingency tables were drawn up for each decision tested. Each decision made by coder X was tested against those of coders Y and Z, then those of coder Y were tested against those of coder Z. In this way a total of 127 binary comparisons were possible. Indices of concordance (Martin & Bateson, 1993) were computed for each paired comparison. Reliability data are presented in Table 3.

Table 3. <u>Index of concordance in reliability trial for study 2</u>.	
Paired comparison	**Index of concordance (%)**
Coders X and Y	32/43 (74%)
Coders X and Z	29/42 (69%)
Coders Y and Z	35/42 (83%)
Average	*96/127 (76%)*

It can be seen from Table 3 that the index of concordance (Martin & Bateson, 1993) was 96/127 (76%), thus satisfying reliability criteria (Borg & Gall, 1989). Thus coders could reliably identify each statement as explanatory, explained or non-attributional with respect to other statements in the samples. Once Attribution Scores had been computed based on the decisions made by each coder, it was possible to compute rank- order correlations for the paired comparisons on Attribution Scores. These are shown in Table 4.

Table 4. <u>Spearman's rank order correlations of Attribution Scores for three coders in reliability trial for Study 2.</u>

	Coder X	Coder Y	Coder Z
Coder X	*1.000*	.676**	.539*
Coder Y	.676**	*1.000*	.828**
Coder Z	.539*	.828**	*1.000*

** Correlation (2-tailed) is significant at the .01 level
* Correlation (2-tailed) is significant at the .05 level

It can be seen from Table 4 that all three paired comparisons of coders' Attribution Scores showed significant positive correlations. Thus it can be concluded that, in general, the scoring of items was reliable, i.e. independent of the person who coded the text.

<u>Participants and procedure</u>

Participants were 7 elite junior badminton players (district and national representative level) and 6 elite junior sprinters (3 of the 6 were double Scottish schools/ junior internationalists). At a pre- interview meeting, each athlete was given a general introduction to the study and prior permission was sought (and given) for recording interviews. At this stage athletes were simply told that the interest was in talking to them about their sport and that they should feel free during interviews to speak as 'naturally' as possible. Tape - recorded telephone interviews then took place. At a final session, each athlete was given a full explanation of the study and the opportunity to talk through any issues arising.

Interview questions were based around the match/ performance in terms of what had happened to the athlete. The interviews allowed for minimal prompting by the researcher in order that the athletes would be encouraged to talk, but this did not involve *specific cues to explain* individual aspects (i.e. athletes were free to respond without making attributions)

Example of cues were: How did you get on?; How did this compare to what you expected?; What happened/ how were you feeling/ what were you thinking before/ during / after the event/match/game?; Anything else you want to tell me or ask me?

The interviews were tape- recorded using a Compact Cassette Recorder (CCR) and transcribed verbatim onto computer files. Cassette tapes of the interviews were kept securely, and computer files were disidentified to protect anonymity. The data were then imported from standard word processing files to QSR NVivo software files (e.g. Tagg & Crowley, 2002) to facilitate the coding process [for recent use of QSR software in a sporting context, see Eccles, Walsh & Ingledew (2002) who employed a previous version of the software in conducting a qualitative study with the British Orienteering Squad].

Badminton players were interviewed three times. Results and pre- event rankings were used to classify outcomes into two categories: those where outcomes had been positive (better than expectation or meeting high expectation) and those where they were negative (worse than expectation or meeting low expectation). Attributions were examined for each athlete for each outcome, and a single mean Attribution Score generated for each ‘level’ (positive or negative) of the independent variable.

Whilst the original aim of the multiple interviews (to allow for a range of performance outcomes to be classified) was achieved, it was felt there might be a certain lack of discrimination between outcomes. For example, someone could consistently perform badly over the course of the study. In order to rule out this eventuality with the next group of athletes, outcomes for the sprinters were manipulated to form the same grouping (positive or negative). This was done by interviewing the sprinters twice each, but in this case asking them to select two recent performances, (one positive and one negative) to talk about. Once more a single mean Attribution Score was generated for each athlete for each condition.

Results of study 2

A total of 324 attributional items were found in the 33 interviews. Mean number of attributions per interview overall was 9.81 ($SD = 3.5$). Reliability data on identifying these have been presented, thus it can be concluded that ‘freely given’ attributions can be identified in post-event interviews. Table 5 shows the average Attribution Score for each athlete by performance outcome (the higher of the two scores for each athlete is underlined).

Table 5. Mean Attribution Score by performance outcome in Study 2 (*N* = 324).

Athlete	**Outcome**	
	Positive	**Negative**
1	.7307	.7695
2	1	.8325
3	1.033	.8325
4	1.0114	.7125
5	.9285	.7075
6	.9732	.7075
7	1.1204	.8320
8	.982	.957
9	.9	.833
10	1	.999
11	1.03	.93
12	1.07	.929
13	.955	.816

It can be seen from Table 5 that no 'negative' outcomes led to an average Attribution Score of more than 1. In addition, all but one of the athletes (a badminton player) used more causal statements to explain outcomes in the negative 'condition' (i.e. had lower Attribution Scores after poorer performances), thus there did not appear to be an interaction between athlete and outcome.
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A Wilcoxon Signed- Ranks test was used to determine whether the difference in mean scores between positive and negative items was significant. In this case, due to the significant result from the previous study (see Table 2), it was predicted that Attribution Scores would be higher for the positive condition. Thus a one tailed test was undertaken, and the difference was found to be significant ($z = -2.97$, N-ties = 12, $p < .01$, one tailed), the lower ranks being for attributions after negative outcomes (on average there was more in the way of explanatory accounting in these interviews).

Discussion of study 2

This evidence is compatible with that of, for example, Peterson, Bettes and Seligman (1985) who state "we showed that individuals offer explanations about bad events when not explicitly solicited" (p. 382). Similarly, Price, McClure and Siegert (2000) found more "causal thinking" (facilitated in part by counterfactual "what if" thinking) after negative outcomes (see also Frieze, 1976; Lau, 1984). Price et al. (op. cit.) consider whether this suggests that athletes who wish to improve on their current performance use failure as a learning experience to identify causes contributing to their defeat or that "athletes' ruminations about losses have adaptive coping elements" (p. 34). Lau and Russell (1980) found more causal searching (based on time discussing a game) for losses than wins. In a wider clinical context, Schulman, Castellon and Seligman (1989) describe a range of evidence that "bad events with explanations are much more abundant than good events with explanations" (p. 509), citing, for example, Tversky and Kahneman 1981;

Zautra and Reich, 1983.

Weiner (1986) proposed that certain outcomes (e.g. “negative”, “unexpected” or “important”) generate a search for explanation (i.e. attribution). Traditionally, outcomes have been ‘overall’ win/ loss or good/ bad performance variables. However, in this study we did not pre- determine which outcomes athletes would attribute causes to. We identified attributions and coded explanation *of each outcome*. However, each attribution is contextualized within an ‘overall’ negative or positive performance. So a question was whether Weiner’s work leads us to expectations based on the ‘overall’ outcomes or the *specific* ones being explained. Put simply, an athlete loses a match, but is explaining a terrific shot. Would the type of explanation be consistent with attributional literature on *good or bad outcomes*? This question is hopefully answered in some respects in this study, with the ‘overall’ outcome seemingly important in determining the amount of explanation that is forthcoming.

General Discussion and Conclusions

Study 1 showed negative events seem inherently more likely to be explained. Fixed- response measures with matched, pre-supplied positive and negative items would thus seem to have a demand characteristic which skews this ‘natural’ tendency.

Study 2 aimed to establish whether “minimally- cued” (Davies, 1997) attributions would occur in athletes’ post- match interviews. An average of around 10 per interview was found.

These attributions were identified reliably using the LACS methodology (Stratton et al., 1988). It was also established that the attributions take various structural forms, and some variance in structure across pre- interview performance has been described. The data can be interpreted as tentative evidence for some *functional* aspect to the ways in which causal statements are linked to outcome statements in the discourse, as suggested by Peterson et al. (1995) and Weiner (1986).

Tedeschi and Reiss (1981) outline how excuses and justifications (Austin, 1961) are given for “predicaments”. A predicament is a negative case where a person may “be held responsible for his actions and receive credit or be called on to explain them” (Tedeschi & Reiss, op. cit. p. 275). It may be that, after negative outcomes, athletes find themselves in a ‘predicament’ whereby they feel responsible and thus provide more explanation for the specific events they made statements about. If the lower Attribution Scores for negative events in the present study is interpreted as a *taking of responsibility* for negative cases, it might then be discussed in relation to the extensive literature on the attributional dimension of *personal control* (McAuley et al., 1992). Wegner and Vallacher (1977) argue that making causal attributions per se is a functional act designed to *take control* of a social environment. And Harvey, Turnquist and Agostinelli (1988) note that “Attributions may serve many [..] functions, including enhancement of one’s perception of control [..]” (p. 33). Note that it is usually the perception of control that is thought to be important (see Glass & Singer, 1972; Ingledew, Hardy & Cooper, 1996; Seligman, 1975).

Whilst no internal/ external distinction (Weiner, 1974a) was made in these studies, if we argue that attributing more causes to outcomes after a negative event may serve as a “taking of responsibility" (e.g. Anderson & Deuser, 1993), this would in itself would traditionally be seen as 'internal' (i.e. the implicit theme "I am responsible" or "I am in control" is 'internal'). This interpretation can thus be contrasted with evidence that people generally give 'external' attributions for failure and internal ones for success (Bradley, 1978; Miller & Ross, 1975).

However, others have failed to establish this particular self- serving bias for negative outcomes. McAuley and Blissmer (2002) recently pointed out that "the self- serving bias for success is a relatively robust finding" but that "Little sport research supports a self- protection bias for attributing failure to external causes…" (p. 189). Mark et al. (1984) found no significant difference between winners' and losers' attributions on the locus dimension. Anderson (1983) points out that the attributing of failure to unstable rather than stable causes (e.g. Weiner et al., 1972) is a more frequently observable self – serving bias in sport. As McAuley and Blissmer (2002) state: "Making unstable and personally controllable attributions for previous failure and stable and personally controllable attributions for successes is likely to enhance efficacy and subsequent successful behaviour attempts" (p. 201).

Finally, it has hopefully been demonstrated that alternatives to traditional fixed response methodologies can be reliable. Specifically, it has been established that questions about the attributional act itself cannot be addressed if researchers have made a priori judgments as to what requires explanation. For example, it has generally been assumed that overall 'wins' and losses' are events athletes will explain (De-Michele, Gansneder & Solomon 1995; Gill, Ruder & Gross, 1982; Iso- Ahola & Roberts, 1979; McAuley & Gross, 1983; Price et al., 2000; Spink and Roberts, 1980). [Similarly, emotional affect is thought to be consequential (Biddle, 1999; Graham, Kowalski & Crocker, 2002; Weiner 1986)].

Analysis of the present discourse shows outcomes and causes can be linked in a number of ways by athletes. So, for example, when Gill et al., 1982 describe their "attributional item….which simply asked, "what is the most important reason for your team's winning or losing……." (p. 162), this may be flawed. By asking this question, the psychologist assumes that winning/ losing is a *single* outcome people will explain (see also, for example, Bukowski & Moore, 1980; Hamilton & Jordan, 2000; Sheedy, 1983). But we have established some variance across performance categories. In order that this can be further investigated, athletes have to be free to: provide more than one cause for an outcome; provide more than one outcome for a cause; use 'dual' statements for both purposes and use statements as cause or outcome irrespective of their subject matter.

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Foot Notes:

[1] It is somewhat ironic that Russell went on to develop the most widely used of such scales (Russell, 1982).

[2] We were careful not to use the word 'response' (i.e. please *respond* to this item) during the study, as this seems to request a consequence rather than an explanation.

[3] At least 3 statements were included in each selection, so that in principle any type of attribution could have been originally coded.

[4] The University of Strathclyde Ethics Committee gave ethical approval and parental approval was sought and given where appropriate.

[5] This process for determining levels of the independent (outcome) variable was similar to that of Lau and Russell (1980) who used pre- match bookmaker's odds for American Football games to classify outcomes as 'expected' or 'unexpected'. Thus they conclude that 'Clearly we were *not* measuring the "subjective" expectancies of our attributors'.

[6] There were no significant differences between sprinters and badminton players in terms of number of attributions per interview [badminton: M = 10.5 per interview (SD = 3.76); sprinters: M = 8.67 per interview (SD = 2.75); z = -1.47, p = .152]. Nor was there a significant difference in mean Attribution scores [badminton M = .87 (SD = .14); sprinters M = .95 (SD = .07); z = -1.467, p = .145].