A Game of Inches: Spontaneous Use of Counterfactuals by Broadcasters During Major League Baseball Playoffs[1]

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We tested whether counterfactuals are made spontaneously outside of the laboratory by coding sportscasters' online verbalizations during 1998 and 1999 Major League Baseball (MLB) playoff broadcasts, and we assessed whether naturally occurring game features relating to closeness (score closeness, series closeness, game end, and playoff end) delineated some conditions under which counterfactuals were more likely. Sportscasters made counterfactuals quite frequently during these MLB playoff games. In addition, sportscasters uttered greater numbers of counterfactuals as games progressed from early to late innings, which was particularly true when scores were close. Counterfactuals were also uttered in greater numbers with closer scores when series were tied than when one team had a lead. Results are discussed in terms of spontaneous counterfactuals, closeness as an antecedent, and the ecological validity of such thoughts.

Miller: "What a play by Walt Weiss! Weiss has saved the game, at least for the moment. That's why Weiss was in there."

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Sutcliffe: "Ballgame's over without Weiss in there defensively . . . Walt Weiss in perfect position. If he's over one more step to his right, this ballgame's over with."

—Jon Miller and Rick Sutcliffe, ESPN, 1999 National League Division Series
Atlanta Braves vs. Houston Astros

Costas: "If Ogea had not deflected O'Neill's bouncer, he'd be sitting in the dugout right now watching his teammates hit already."
Morgan: "It's a game of inches. If that ball had gotten over his glove, it would have been a double play, but. . . ."

—Bob Costas and Joe Morgan, NBC, 1998 American League Championship Series
New YorkYankees vs. Cleveland Indians

Knight: "Henderson has run wild on the Diamondbacks in this series, but Anderson neutralized him on that particular at-bat."
Berman: "Of course, you can say woulda, coulda, shoulda . . . had he stolen a base, then he might have scored on the hit by Olerud."

—Ray Knight and Chris Berman, ESPN, 1999 National League Division Series
New York Mets vs. Arizona Diamondbacks

Mentally simulating alternative outcomes is a pervasive and ubiquitous human tendency. As illustrated by just the few quotations at the start of this article, the fervor of athletic competition is a particularly likely setting that evokes such thoughts. The comments made by Entertainment and Sports Network (ESPN) announcers Jon Miller and Rick Sutcliffe imply that if Atlanta Braves shortstop Walt Weiss had not been positioned perfectly to make an outstanding defensive play with the bases loaded and the score tied 3-3 in the 10th inning on a line drive hit by Houston Astros batter Tony Eusebio, the game would have ended with the Astros winning. As it happened in actuality, however, the play by Weiss allowed the game to continue, with the Braves ultimately winning that National League Division Series (NLDS) game 5-3 in 12 innings. In a similar manner, the exchange between National Broadcasting Company (NBC) commentators Bob Costas and Joe Morgan would indicate that if pitcher Chad Ogea of the Cleveland Indians had not deflected a ball hit by batter Paul O'Neill of the New York Yankees to the outfield, then Indians shortstop Omar Vizquel might have been able to field the ball, commencing an inning-ending double-play. As it happened in actuality, however, the inning continued, and the Yankees scored 3 runs and went on to win that American League Championship Series (ALCS) game 5-3. The remarks by announcers Ray Knight and Chris Berman of ESPN express the view

that if New York Mets runner Ricky Henderson had been able to steal second base off Arizona Diamondbacks pitcher Brian Anderson, he might have scored on the subsequent single by Mets hitter John Olerud, breaking a 1-1 tie in the 6th inning. As it happened in actuality, however, Henderson was held up at third base, unable to run home. The Mets won that NLDS game 4-3 anyway, closing out that series 3 games to 1.

Spontaneous Counterfactual Thinking: Conceptual and Methodological Issues

Such thoughts about "what might have been" are called counterfactuals. They are mentally simulated alternatives to the past that did not actually happen but that easily could be imagined having happened instead, often typified by "if only," "what if," "at least," or similar conceptions (see Miller, Turnbull, & McFarland, 1990; Roese & Olson, 1995, for reviews). Counterfactuals have important applied implications for social psychology and for many other areas of psychology because of their relation to diverse topics such as affective reactions (e.g., Gleicher et al., 1990; Landman, 1987), accident and victim compensation (e.g., Macrae & Milne, 1992; Turley, Sanna, & Reiter, 1995), coping and blame assignment (e.g., Davis & Lehman, 1995; Miller & Gunasegaram, 1990), and causal ascriptions (e.g., Lipe, 1991; Wells & Gavanski, 1989).

Conceptual Issues

Our first objective is to provide a test in a realistic setting that assesses whether counterfactuals are made spontaneously, "online" (while the event is actually occuring), outside of the laboratory. We did this within the context of the Major League Baseball (MLB) playoffs. Whether counterfactuals are made spontaneously outside of the laboratory is a question that strikes at the very heart of the area, is critical to the area's integrity, and thus is of considerable importance both theoretically and practically.

Informal observations might suggest that, at least once described to them, many people would say that they think counterfactually. However, although relying on informal observations can serve as a good starting point for developing a research area, informal observations or intuitions alone are not in and of themselves enough to document the existence of spontaneous counterfactual thinking. Perhaps somewhat surprisingly, to this point, there is in fact no existing empirical demonstration that counterfactual thinking occurs spontaneously and online outside of the laboratory. The issue here is not so much one that we as authors and researchers working in the counterfactual area personally doubt the existence of spontaneous counterfactual thinking, but it is one that leaves the door open for skeptics to argue that counterfactuals might be of dubious value or that they possibly are an ephemeral or freakish oddity confined to prior methodologies.

An analogue for our present research is that on spontaneous causal attributions, and it is noteworthy that several researchers have recently drawn connections between counterfactuals and attributions (e.g., Hilton & Slugoski, 1986; Lipe, 1991; Sanna & Turley, 1996). There might have been a great deal of informal evidence that people make causal attributions spontaneously, as might be the case for spontaneous counterfactuals. But documenting directly that causal attributions, in fact, were made spontaneously in nonlaboratory contexts and without any prompting by researchers (e.g., Weiner, 1985) was a necessary and critical step to truly establish the integrity and validity of the area. Our research takes another critical step in that direction for the area of counterfactuals. In the attribution area, Lau and Russell (1980) helped to establish the spontaneity of causal attributions in a now classic paper by assessing attributions made by newspaper writers in the sports pages. Our research does so similarly with counterfactuals, but even advances prior methods used by these attribution theorists by assessing the use of counterfactuals as made spontaneously during actual game broadcasts.

Methodological Issues

Current research falls somewhat short in providing strong evidence for spontaneous counterfactual thinking outside of the laboratory. This is mainly because the majority of studies explicitly direct, instruct, or otherwise prompt participants to generate counterfactuals (and the researchers were not interested in spontaneity per se). Or because the few studies that come closest to assessing spontaneous counterfactuals were all conducted in laboratory settings.

Participants can be asked explicitly for reactions to vignettes comparing the plight of two protagonists (e.g., Boninger, Gleicher, & Strathman, 1994; Kahneman & Tversky, 1982; Landman, 1987; Macrae & Milne, 1992; Turley et al., 1995) or to list counterfactuals directly (e.g., Dunning & Parpal, 1989; N'gbala & Branscombe, 1995; Sanna, 1997; Wells & Gavanski, 1989). Although providing potentially informative results in other respects, studies using prompted methodologies do not allow strong conclusions about spontaneous counterfactuals, nor were they designed to do so.

Some research simply asks participants to write about outcomes (e.g., Sanna, 1996; Sanna, Meier, & Turley-Ames, 1998; Sanna & Turley, 1996) or employs think-out-loud protocols (Markman, Gavanski, Sherman, & McMullen, 1993), which are later coded for counterfactuals by judges. Other research uses reaction times to counterfactual statements (e.g., Roese & Hur, 1997; Sanna, Chang, & Meier, 2001; Sanna, Turley-Ames, & Meier, 1999) as a measure of spontaneity. Although these methods are perhaps more spontaneous than is direct prompting, participants are instructed explicitly to provide thoughts of some kind or to respond to already provided statements. A still larger issue is that all studies using these methods also were conducted in a laboratory setting.

Closeness and Spontaneous Counterfactual Generation

Our second objective is to test some conditions under which spontaneous counterfactuals are more likely. The choice of the MLB playoffs is a realistic setting that afforded a unique and elegant opportunity to do this. One particularly relevant class of variables is closeness. In a classic study that forms the genesis of counterfactual research, Kahneman and Tversky's (1982) participants read about two people who missed plane flights. One person missed the flight by 5 min, whereas the other person missed the flight by 30 min. Participants reading this vignette reported that the person who missed the flight by 5 min experienced greater regret than did the one who missed it by 30 min. It is presumed that people find it easier to counterfactualize about minor changes that would result in the flight being made when a flight is "just missed" by 5 min than when it is missed by a full 30 min (Kahneman & Miller, 1986).

Additional studies have shown the relevance of closeness to counterfactual generation (e.g., Medvec & Savitsky, 1997; Meyers-Levy & Maheswaran, 1992; Miller et al., 1990) being characterized as the psychology of "almost happened" (Kahneman & Varey, 1990). MLB contains several features in which closeness occurs naturally during the course of play. One feature is score closeness. Scores can vary throughout a game, but a direct application of previous theorizing suggests that counterfactuals might occur in greater numbers when the score disparity between teams is close, rather than far (i.e., it is easier to imagine the alternate team being ahead). A second feature is series closeness. In a similar manner, greater numbers of counterfactuals might occur when the game disparity between two teams in a series is close (i.e., it is easier to imagine the alternate team leading the series).

Two other variables include game end and playoff end. As games and playoffs near completion, counterfactuals might be more likely. Some evidence for these latter proposals exists in research using vignette methodologies. Sherman and McConnell (1996) reported that participants gave greater weight to basketball games played late in a season and to foul shots taken at the end of games when reading about hypothetical outcomes. Miller and Gunasegaram (1990) found that counterfactuals were evoked more strongly when participants rated later occurrences in a series when reading vignettes.

We coded broadcasters' online verbalizations during MLB playoffs, a public and involving situation without any prompting from the researchers whatsoever. That closeness might be a variable of importance to MLB is evidenced further by the cliché that refers to the game itself as a "game of inches," illustrated by sportscaster Joe Morgan's quote at the start of this article. To summarize, we tested whether counterfactuals are made spontaneously outside of the laboratory by assessing sportscasters' online verbalizations during MLB playoffs, and we tested whether naturally occurring game features relating to closeness (score

closeness, series closeness, game end, and playoff end) delineate some conditions under which counterfactuals are more likely.

Method

Brief Overview of MLB Playoffs

Numerous sources can be consulted for overviews of MLB (e.g., Bakalar, 1996), as well as its rules (e.g., MLB, 1998). Here, we simply give a brief description of the MLB playoff series and game format, which is most relevant for our present purposes.

Playoff series. There are two leagues in the MLB, the American League (AL) and the National League (NL), each with three divisions—Eastern, Central, and Western. The teams with the best season records within their respective divisions in each league go to the playoffs (i.e., the six winners of each division). In addition, within each league, one second-place team goes to the playoffs as a *wild-card* entry. This team has the best record of all remaining teams that did not win a division. Thus, four teams within each league make it to the playoffs, for eight teams total each year.

The first round of each playoff series is the Division Series (DS). Four teams within the AL are paired off and play each other in two DSs: the two ALDSs. The same holds true for the four teams in the NL, which are paired off in two NLDSs.[3] The DSs are a best-of-five game format, with the first team to win three games advancing to the next round within each league. The second round of the playoffs is the Championship Series (CS), with one CS in each league. The ALCS pairs the winners of the two ALDSs, whereas the NLCS pairs the winners of the two NLDSs. Unlike the DSs, the CSs are a best-of-seven game format, with the first team to win four games advancing to the next and final round of the playoffs, the World Series (WS). The WS pairs the winner of the ALCS with the winner of the NLCS. As in the CSs, the two WS teams play a best-of-seven game format, with the first team to win four WS games being crowned "World Champion."

Game format. Each individual game is scheduled for 9 innings. All games in MLB playoffs are played for at least 8½ innings. The game format is such that

[3]Normally, DS teams are paired in such a way that the wild-card team plays the team with the overall best record within each league. An exception to this rule is when the wild-card team comes from the same division as the team with the overall best record. In such cases, the wild-card team is paired with the team with the second best overall record in each league. This happened for the Boston Red Sox in both the 1998 and 1999 ALDS, who were the wild-card team coming from the same division as the team with the overall best record in the AL for those years, the New York Yankees. Such also was the case for the New York Mets in the 1999 NLDS, who were the wild-card team coming from the same division as the team with the overall best record in the NL that year, the Atlanta Braves.

innings are divided into top and bottom halves, with each team having a turn at fielding and batting within each inning. The home team bats last within each inning. Thus, if the home team is already leading at the conclusion of 8½ innings, the bottom half of the 9th inning becomes unnecessary and will not be played. There are no time limits for MLB playoff games. If a score is tied after a full 9 innings, play continues for as many innings as necessary to break the tie; these additional innings are generally referred to as *extra innings*. However, the home team always has a final opportunity to bat last, if necessary, as when the visiting team moves ahead in the top half of an extra inning.

Data Collection and Coding

All games in the 1998 and 1999 MLB playoff series were videotaped in their entirety from publicly available television broadcasts. In 1998, the eight teams involved in the playoffs were the Atlanta Braves, Boston Red Sox, Chicago Cubs, Cleveland Indians, Houston Astros, New York Yankees, San Diego Padres, and Texas Rangers. In 1999, the eight teams involved in the playoffs were the Arizona Diamondbacks, Atlanta Braves, Boston Red Sox, Cleveland Indians, Houston Astros, New York Mets, New York Yankees, and Texas Rangers. Summaries of the teams, final scores and outcomes, and number of innings played for each game are presented in Tables 1 and 2.

In total, the present data included all 61 games played during the 1998 and 1999 MLB playoffs, constituted from 555 innings. The games used for analyses included over 170 hr of actual game broadcast time. All games were coded on the basis of various game characteristics, as well as for counterfactuals, as described in this section. Every game was watched in its entirety and was coded by at least two judges. Any disagreements in coding were resolved through further discussion, which included consulting the appropriate points in the game video, if necessary.

Game characteristics. In addition to assessing numbers of spontaneous counterfactuals, several game characteristics were coded. Of most interest were those characteristics related to influences of closeness, for reasons described previously. These include: (a) closeness of score, (b) closeness of series, (c) closeness to game completion, and (d) closeness to playoff completion. We will refer to these four variables as *score closeness*, *series closeness*, *game end*, and *playoff end*, respectively.

To index game end, we blocked innings into four categories. These blocks were innings 1-3, 4-6, 7-9, and extra. Game end was thus a categorical variable. Although all MLB playoff games must be played for 8½ innings, games can vary in number of innings if played beyond that. To adjust for this, counterfactuals were averaged within block, and these averages were used for analysis. This procedure had the benefit of classifying games into early, middle, and late

Table 1

1998 Major League Baseball Playoff Summary

Series	Teams/ game	Score/ winner	No. innings	Teams/ game	Score/ winner	No. innings
ALDS	New York Yankees vs. Texas Rangers (Yankees win series 3-0)			Cleveland Indians vs. Boston Red Sox (Indians win series 3-1)		
	Game 1	2-0 Yankees	8½	Game 1	11-3 Red Sox	9
	Game 2	3-1 Yankees	8½	Game 2	9-5 Indians	8½
	Game 3	4-0 Yankees	9	Game 3	4-3 Indians	9
				Game 4	2-1 Indians	9
NLDS	San Diego Padres vs. Houston Astros (Padres win series 3-1)			Atlanta Braves vs. Chicago Cubs (Braves win series 3-0)		
	Game 1	2-1 Padres	9	Game 1	7-1 Braves	8½
	Game 2	5-4 Astros	9	Game 2	2-1 Braves	10
	Game 3	2-1 Padres	8½	Game 3	6-2 Braves	9
	Game 4	6-1 Padres	8½			
ALCS/ NLCS	Yankees vs. Indians (Yankees win series 4-2)			Padres vs. Braves (Padres win series 4-2)		
	Game 1	7-2 Yankees	8½	Game 1	3-2 Padres	10
	Game 2	4-1 Indians	12	Game 2	3-0 Padres	9
	Game 3	6-1 Indians	8½	Game 3	4-1 Padres	8½
	Game 4	4-0 Yankees	9	Game 4	8-3 Braves	9
	Game 5	5-3 Yankees	9	Game 5	7-6 Braves	9
	Game 6	9-5 Yankees	8½	Game 6	5-0 Padres	9
WS	Yankees vs. Padres (Yankees win series 4-0)					
	Game 1	9-6 Yankees	8½			
	Game 2	9-3 Yankees	8½			
	Game 3	5-4 Yankees	9			
	Game 4	3-0 Yankees	9			

Note. AL = American League, NL = National League, DS = Division Series, CS = Championship Series, WS = World Series. DS games are best of 5, whereas CS and WS games are best of 7.

Table 2

1999 Major League Baseball Playoff Summary

Series	Teams/ game	Score/ winner	No. innings	Teams/ game	Score/ winner	No. innings
ALDS	New York Yankees vs. Texas Rangers (Yankees win series 3-0)			Boston Red Sox vs. Cleveland Indians (Red Sox win series 3-2)		
	Game 1	8-0 Yankees	8½	Game 1	3-2 Indians	9
	Game 2	3-1 Yankees	8½	Game 2	11-1 Indians	8½
	Game 3	3-0 Yankees	9	Game 3	9-3 Red Sox	8½
				Game 4	23-7 Red Sox	8½
				Game 5	12-8 Red Sox	9
NLDS	New York Mets vs. Arizona Diamondbacks (Mets win series 3-1)			Atlanta Braves vs. Houston Astros (Braves win series 3-1)		
	Game 1	8-4 Mets	9	Game 1	6-1 Astros	9
	Game 2	7-1 D'backs	8½	Game 2	5-1 Braves	8½
	Game 3	9-2 Mets	8½	Game 3	5-3 Braves	12
	Game 4	4-3 Mets	10	Game 4	7-5 Braves	9
ALCS/ NLCS	Yankees vs. Red Sox (Yankees win series 4-1)			Braves vs. Mets (Braves win series 4-2)		
	Game 1	4-3 Yankees	10	Game 1	4-2 Braves	8½
	Game 2	3-2 Yankees	8½	Game 2	4-3 Braves	8½
	Game 3	13-1 Red Sox	8½	Game 3	1-0 Braves	9
	Game 4	9-2 Yankees	9	Game 4	3-2 Mets	8½
	Game 5	6-1 Yankees	9	Game 5	4-3 Mets	15
				Game 6	10-9 Braves	11
WS	Yankees vs. Braves (Yankees win series 4-0)					
	Game 1	4-1 Yankees	9			
	Game 2	7-2 Yankees	9			
	Game 3	6-5 Yankees	10			
	Game 4	4-1 Yankees	8½			

Note. AL = American League, NL = National League, DS = Division Series, CS = Championship Series, WS = World Series. DS games are best of 5, whereas CS and WS games are best of 7.

components, as well as extra innings, which conforms to the way they are described by baseball enthusiasts (e.g., Bakalar, 1996). Following this convention, we also refer to these blocks as *early*, *middle*, *late*, and *extra* innings for ease of exposition. To index score closeness, we used the average (mean) absolute discrepancy in scores between teams within each inning block.[4] Score closeness thus was a continuous variable.

The format of DSs is a best-of-five game format, and CSs and WSs are a best-of-seven game format. Specific games thus can have somewhat different meanings when DS versus CS and WS are compared. The importance of any one game is further influenced by discrepancies in victories between the two teams. For example, a game of a series is very different when one team is already ahead 3 games to 0 than when two teams are tied at 3 games. To index series closeness, and to account for number of victories held by each team, we focused on the difference in the number of victories in a series. Games within a series were coded as a continuous variable from 0 to 3, with 0 indicating that the two teams had the same number of victories (i.e., the series was tied) through 3, indicating that one team had a three-game lead in a series.[5] There are three series levels (DS, CS, and WS) in MLB playoffs, which were coded as a continuous variable, indicating closeness to playoff end.

We also recorded several other game characteristics, although we did not have any specific hypotheses for them. These included: (e) year of game, (f) team involved, and (g) broadcast network (and sportscaster). However, there were no differences in counterfactuals among these characteristics, and neither did these characteristics qualify our main results. Thus, for clarity and ease of exposition, these other characteristics are not discussed further in this article.

Counterfactuals. Counterfactuals are mentally simulated alterations to the past suggesting that things might have been different. Each game was taped then watched in its entirety, and counterfactual verbalizations made by sportscasters online during the games were recorded independently by at least two judges who were unaware of hypotheses.

Three classes of counterfactuals could be identified clearly. The first is *conditional counterfactuals*. Conditional counterfactuals are classic "if–then"

[4]Alternate analyses of game end and score closeness were also conducted. These included simply coding innings from 1 to 15 (the longest game was 15 innings), and using minimum and maximum absolute values of score discrepancies with inning blocks. Each of these analyses revealed a pattern of results virtually identical to that reported in the text. However, only analyses using inning blocks and mean score discrepancies are reported for ease of exposition.

[5]Alternate analyses of series closeness were also conducted. These included coding games from 1 to 6 (the longest series was 6 games). These analyses revealed a pattern of results virtually identical to that reported in the text. However, analyses using game discrepancies are reported in the text, as they better represent series closeness. Coding games 1 to 6 would have created another issue. It cannot be known ahead of time whether a series will end in 4, 5, 6, or 7 games until it is actually completed, thus it is unclear whether this alternate coding is an appropriate index of series end.

statements that include both a distinct antecedent and a consequent (e.g., "If Garciaparra were 3 feet over to his left, he might have gotten that ball for a double play"). A second class is close counterfactuals. *Close* or *close-call counterfactuals* are statements about "just missing" or near misses that would have changed things had they occurred instead (e.g., "That ball almost got over the home-run line"). Both conditional and close counterfactuals have already been described in prior research and have been shown to have a variety of consequences (e.g., Kahneman & Varey, 1990; Markman et al., 1993).

It was apparent during coding that another class of counterfactual was made frequently by sportscasters during MLB games, but this was not captured fully by conditional or close categories. We called this third class *statement counterfactuals* (e.g., "Cox should have let Glavine bunt during that at-bat instead of having him swing away"). Statement counterfactuals clearly indicate that things might, could, would, should, and so forth, have been different, but do not include both a distinct antecedent and a consequent stated in a conditional fashion, as do conditional counterfactuals, nor do they describe close or near misses, as do close counterfactuals.

Overall agreement was 86%, 89%, and 87% (Cohen's k = .85, .87, .86) for conditional, close, and statement counterfactuals, respectively. Any discrepancies in coding were resolved through further discussion, which included consulting relevant points in a game video, if necessary. Several examples of each class of counterfactuals are presented in the Appendix.[6]

Results

Spontaneous Online Counterfactuals

The most fundamental question is whether sportscasters of MLB playoff series make counterfactuals spontaneously in the first place. Our codings of their online verbalizations during game broadcasts indicate very clearly that they do. Overall, there were 1,137 counterfactuals made during the 61 games. This is an average of about two counterfactuals (M = 2.01, SD = 0.85) every full inning, or an average of one counterfactual approximately every 8 min. There

[6]These three categories could be most reliably coded and were inclusive enough to contain all verbalized counterfactuals. We also attempted to code counterfactuals on the basis of other attributes (e.g., by their direction). In the present data, about 75% of counterfactuals were upward and about 25% were downward. But there was sometimes great disagreement about whether counterfactuals were upward or downward, mostly because of the fact that what is "better" for one team is often correspondingly "worse" for the other. Similar difficulties were encountered for other dimensions (e.g., additive vs. subtractive). Nevertheless, additional analyses parsing counterfactuals on the basis of these other attributes revealed no interactions with our predictors. Thus, because they were more reliable and for ease of exposition, we simply focus on the three classes in the text.

were 36% conditional (n = 414), 34% close (n = 391), and 29% statement (n = 332) counterfactuals.[7] In short, MLB playoff sportscasters made spontaneous counterfactual utterances quite often.

Closeness and Spontaneous Counterfactuals

The second question is whether game characteristics relating to closeness determine when counterfactuals are more likely. To answer this, we conducted hierarchical regression analyses, with mean counterfactuals as the criterion; and score closeness, series closeness, game end, and playoff end, as well as their various interactions (Cohen & Cohen, 1983; Pedhazur, 1997) as the predictors. The variables were entered in accordance with the natural progression of MLB's postseason: A game begins, scoring occurs, a specific series ends, and the entire playoff ends. The predictors and their joint effects were thus entered following this same progression (e.g., game end, score closeness).[8]

The final model selected was that for which the last variable entered produced a significant increase in R^2 (Cohen & Cohen, 1983), $F(6, 185) = 12.35$, $p < .001$ (multiple $R = .55$). Within the overall model, three significant effects emerged: game end, $t(185) = 5.69$, $p < .01$ ($\beta = .63$, $\Delta R^2 = .17$); Game End × Score Closeness, $t(185) = -3.42$, $p < .01$ ($\beta = -.84$, $\Delta R^2 = .05$); and Series Closeness × Score Closeness, $t(185) = 2.32$, $p < .02$ ($\beta = .31$, $\Delta R^2 = .02$).

As predicted, the positive regression weight for game end indicated that the mean number of counterfactuals uttered per inning by sportscasters increased as games progressed (early innings, $M = 1.68$, $SD = 0.75$; middle innings, $M = 1.70$, $SD = 0.67$; late innings, $M = 2.59$, $SD = 0.84$; extra innings, $M = 3.61$, $SD = 0.89$; Figure 1).

Interactions were interpreted by regressing mean counterfactuals on score closeness within each level of the appropriate variable. That is, for Game End × Score Closeness, counterfactuals were regressed on score closeness within each of the four inning blocks. For Series Closeness × Score Closeness, counterfactuals were regressed on score closeness within each of the four levels of series closeness. These two interactions are depicted in Figures 2 and 3, respectively.

As depicted in Figure 2, there were negative relationships between counterfactuals and score closeness in all blocks except the early one, indicating that counterfactuals were uttered more often when scores were closer. The negative

[7]Separate analyses of conditional, close, and statement counterfactuals revealed a virtually identical pattern of results for all three types, as did including them as a repeated-measures dependent variable. Because of this, and for ease of discussion, the three counterfactual types were combined in analyses reported in this article.

[8]The specific order of entry was as follows: (a) game end (GE); (b) score closeness (SC); (c) GE × SC; (d) series end (SE); (e) GE × SE, SC × SE; (f) GE × SE × SC; (g) series closeness (SeC); (h) GE × SeC, SE × SeC, SC × SeC; (i) 3-way interactions involving SeC; and (j) 4-way interactions.

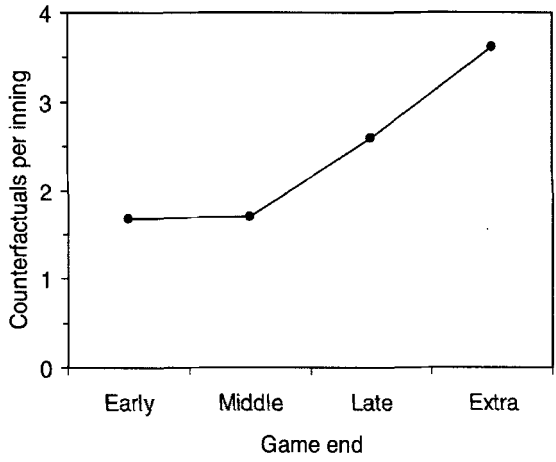

Figure 1. Mean number of counterfactuals per inning by game end.

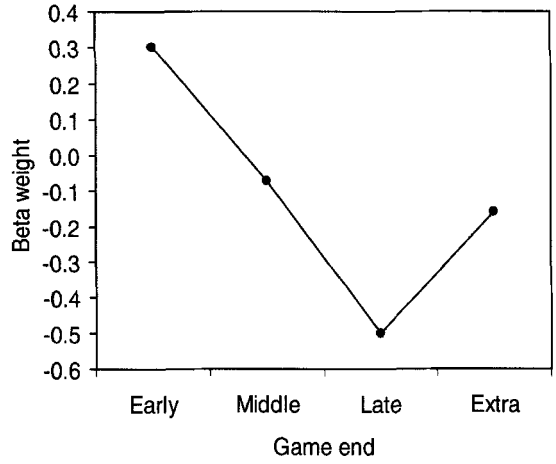

Figure 2. Regression beta weights relating mean number of counterfactuals per inning to score closeness by game end.

relationship between counterfactuals and score closeness was significant in the late innings (β = -.50, SE = 0.08, $p < .01$), but did not attain significance in the middle (β = -.07, SE = 0.05) or extra (β = -.16, SE = 0.06) innings. In contrast, there was a positive relationship between counterfactuals and score closeness in the early (β = .30, SE = 0.07, $p < .02$) innings. When viewed in light of the

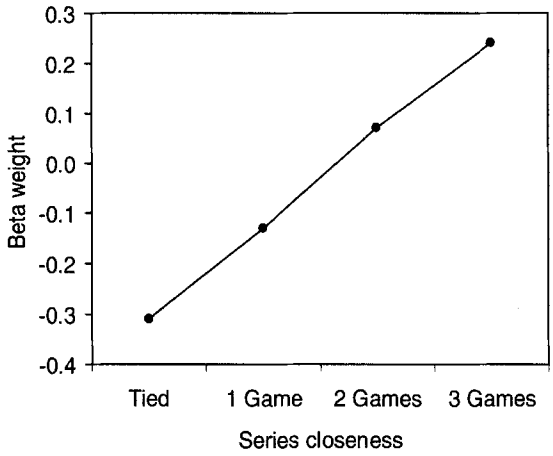

Figure 3. Regression beta weights relating mean number of counterfactuals per inning to score closeness by series closeness.

previously described game end effect, an interesting pattern emerges. First, counterfactuals are uttered more often as the game progresses from the start into extra innings. Second, counterfactuals are uttered more often with discrepant scores in early innings, but with closer scores in later innings.

As depicted in Figure 3, there was a significant negative relationship between counterfactuals and score closeness only when series were tied (β = -.31, SE = 0.05, $p < .01$), indicating that the number of counterfactuals increased with closer scores in those games. Score closeness was not significantly related to counterfactuals when one team had more victories than the other (one-game lead in a series, β = -.13, SE = 0.04; two-game lead, β = .07, SE = 0.04; three-game lead, β = .24, SE = 0.06).

Discussion

The present study used data from MLB playoff broadcasts, first to provide evidence that counterfactuals are made spontaneously online outside of the laboratory and, second to provide a test of some conditions under which these counterfactuals are more likely in this setting.

Spontaneous Counterfactuals in Real Life

There might be little need to persuade counterfactual researchers that people engage in such thinking, but many others might have remained skeptically

unconvinced. At worst, if not made spontaneously outside the laboratory, this leaves the area open to possible criticism that counterfactuals are of dubious value or are even irrelevant. At best, if not made spontaneously outside the laboratory, this leaves open possible criticism that counterfactuals are an ephemeral or freakish oddity confined to prior methodologies. Using the naturalistic setting of the MLB playoffs, we found that sportscasters' online verbalizations included spontaneous counterfactuals quite often.

Prior studies prompted participants for counterfactuals (Boninger et al., 1994; Macrae & Milne, 1992; Turley et al., 1995; Wells & Gavanski, 1989). Other studies required participants to write about outcomes (Sanna, 1996; Sanna & Turley, 1996), employed think out-loud protocols (Markman et al., 1993), or employed reaction times (Roese & Hur, 1997; Sanna et al., 1999, 2001), but were all conducted in laboratory contexts. Our present study, using MLB playoffs as a public and involving situation outside of the laboratory that included no prompting from researchers whatsoever, goes even further in arguing for the ecological validity of such thoughts. The research also builds on methodologies assessing spontaneous causal attributions (e.g., Lau & Russell, 1980; Weiner, 1985), and it is noteworthy that connections between attributions and counterfactuals have been made (e.g., Lipe, 1991; Sanna & Turley, 1996). Whether or not one has personally experienced counterfactuals introspectively or has observed counterfactuals made by others, the present research represents the first empirical demonstration of spontaneous counterfactual thinking as it is executed online outside of the laboratory.

A few other studies are interesting in this regard. Davis, Lehman, Wortman, Silver's, and Thompson's (1995) participants made retrospective judgments of "undoing" of events 4 to 7 years after a spouse's or child's death from an automobile accident, or 3 weeks and then 8 months after a child's death from sudden infant death syndrome. Our present study adds to research conducted in response to real-life outcomes by assessing counterfactuals as made online as the events actually happen. Two other studies involved coding television broadcasts. Medvec, Madey, and Gilovich (1995) had participants in one study rate the presumed affect of Olympic athletes who won second- (silver) or third-place (bronze) medals, and in a second study had participants rate the overall content of medal winners' interviews as focusing on "at least" versus "almost." Our research adds to, but also goes beyond, these findings by providing an analysis of the actual number of counterfactual verbalizations. In a study of regret, Zeelenberg, van der Pligt, and Manstead (1998) coded the number of apologies made for regretted actions versus inactions on a Dutch television show. We assessed people's online counterfactuals. MLB sportscasters' spontaneous counterfactual verbalizations during playoff games thus add to and move beyond several interesting studies in various other settings. Unlike these prior studies, however, our present research assesses counterfactual utterances directly in response to ongoing events: the

actual game outcomes. As such, the study adds to what is known about the ecological validity of counterfactuals.

Counterfactual Antecedents and Other Implications

Closeness has been proposed to be important to counterfactual generation from the area's inception (Kahneman & Tversky, 1982). Other studies have reinforced the role of closeness as being relevant to counterfactuals (e.g., Medvec & Savitsky, 1997; Miller et al., 1990), even being characterized as the psychology of almost happened (Kahneman & Varey, 1990). The MLB playoffs offered an unique and elegant opportunity to test the effects of closeness using a real-life methodology. Naturally occurring game features relating to closeness (score closeness, series closeness, game end, and playoff end) were tested to delineate conditions under which counterfactuals are more likely. Counterfactuals were uttered more often by sportscasters at the end of games than at the beginning of games; that is, as a game progressed from early through extra innings. The game end effect appears consistent with studies using vignette methodologies. Sherman and McConnell's (1996) participants gave greater weight to basketball games played late in a season and to foul shots taken at the end of games when reading about hypothetical outcomes; Miller and Gunasegaram (1990) found counterfactuals to be evoked more strongly when participants rated later occurrences in a series when reading vignettes.

Score closeness influenced counterfactuals while also being moderated by game end and series closeness. The Game End × Score Closeness effect resulted from a negative relationship between counterfactuals and score closeness in all inning blocks (middle, late, and extra) except the early one, indicating that sportscasters uttered counterfactuals more often when scores were closer. This was significant in late innings, but not in middle or extra innings. There also was a significant positive relationship between counterfactuals and score closeness in early innings. This effect might be worth exploring in future research and could suggest that counterfactuals are employed differently at various stages in a temporal sequence (Miller & Gunasegaram, 1990). Perhaps discrepant scores early in the game evoke many future possibilities, resulting in a type of assimilation effect (e.g., Sanna, 1997, 2000; Sanna & Meier, 2000), whereas closer scores later in the game evoke a type of contrast effect. But such an argument is weakened somewhat by the lack of significant relation between score closeness and counterfactuals in extra innings. The Series Closeness × Score Closeness effect resulted from a significant negative relationship between these variables only when a series was tied; when a team already had a one-, two-, or three-game lead, counterfactuals and score closeness were unrelated. Playoff end did not influence counterfactuals in our data set.

Why might closeness have such an influence on counterfactuals in this setting? Perhaps this is expressed most eloquently by Larry Dierker, Houston Astros

manager, who was interviewed about the "fun" of close ballgames during the 7th inning of Game 4 between his Astros and the San Diego Padres in the 1998 NLDS. As Dierker described it:

> You can feel it down there. And it's tough. Your stomach will get in knots, and you feel your heart beating a little faster. I can't describe it as "fun" but it's the essence of the sport. Being in the dugout with a close game late. If you're a competitor, you gotta say you like it, even though you might not be having what you term as "fun."

Whether or not it should be described as "fun," close games certainly are exciting. In fact, as Dierker noted, it might well be the "essence of the sport" and the one that attracts even the most causal observer's attention. Perhaps it is this excitement, the realization that a game is "on the line," that induces people to think counterfactually in this context. Such a view would be consistent with suggestions that counterfactuals have a surprising (Kahneman & Miller, 1986) or even a visceral or intense (Sanna & Turley-Ames, 2000) quality underlying them. Of course, this is not to imply that closeness is the only antecedent to counterfactual thinking. For example, Sanna and Turley-Ames delineated several properties of counterfactuals (i.e., number, duration, and intensity), along with several antecedents or activators (e.g., closeness, moods, expectancies) and content (e.g., direction).

This brings up some final possibilities and other applied implications of the present findings. First, one benefit of using national television broadcasts, as in the present study, is that sportscasters attempt to remain relatively neutral in their description of games. However, recent research on different construals of closeness (Medvec & Savitsky, 1997) and on egoistic uses of counterfactuals (Sanna et al., 1999, 2001) suggests that strongly allied fans might react quite differently. Second, it is possible that closeness matters most because the closer the score, or the closer the series, the more accessible are alternatives to reality (Kahneman & Miller, 1996; see also Schwarz, 1998). That is, when scores or series are closer, the converse reality (or losing rather than winning) might be closer both realistically and in terms of mental accessibility. Whether counterfactuals are engaged in for more motivational reasons, such as egotism, or for more cognitive reasons, such as accessibility, in the present context might be interesting questions for future research. Finally, it could be useful for future researchers to explore further whether sportscasters are using counterfactuals as a strategic ploy in an effort to attempt to consciously manipulate audience responses. Whatever the case, our data clearly indicate that counterfactuals are made spontaneously and quite frequently, and that several variables related to closeness might influence when they are more likely, as made by sportscasters and online within this setting. As

such, the present research goes that much further in delineating the ecological validity of counterfactual thinking as it occurs in naturalistic settings.

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Appendix

Examples of Conditional, Close, and Statement Counterfactuals

Conditional Counterfactuals

"If he could have thrown to the other side of second base, he might have gotten him." (1998 NLDS, Game 1, bottom 2nd, Braves vs. Cubs)

"If he takes his back foot up the third-base line, it's an out." (1999 NLDS, Game 2, bottom 3rd, Mets vs. Diamondbacks)

"Had that ball not hit Veras, it could have skipped by Girardi, and he could have made it to first base." (1998 WS, Game 4, bottom 4th, Yankees vs. Padres)

"Offerman was removed one pitch too late, or everything would have been entirely different." (1999 ALDS, Game 2, top 4th, Red Sox vs. Indians)

"Had John Vanderwal not been bustin' it out of the box, he's outta there." (1998 NLCS, Game 5, bottom 4th, Padres vs. Braves)

Close Counterfactuals

"The ball just barely missed by 2 feet from being a 3-run homer." (1998 ALDS, Game 2, top 1st, Indians vs. Red Sox)

"That was almost a near extra-base hit by Lee Stevens." (1999 ALDS, Game 1, top 4th, Yankees vs. Rangers)

"Inches down the left-field line, and ball hooking away from Glenn Allen Hill, just does land fair." (1998 NLDS, Game 2, bottom 10th, Braves vs. Cubs)

"They gave him a pitch to hit, but it was just a little bit too far out of his zone." (1999 NLCS, Game 6, top 9th, Braves vs. Mets)

"Just a matter of inches from being a home run and a Sox lead." (1999 ALCS, Game 2, bottom 8th, Yankees vs. Red Sox)

Statement Counterfactuals

"What might have been a disaster winds up with just one run scored." (1999 NLDS, Game 1, top 2nd, Braves vs. Astros)

"The Yankees are at least on the scoreboard and avoid the shutout." (1999 ALCS, Game 3, top 8th, Yankees vs. Red Sox)

"Bagwell should have perhaps blocked that ball, not allowing a run to score." (1998 ALDS, Game 4, bottom 6th, Padres vs. Astros)

"That ball is not out of the park on most nights." (1999 WS, Game 3, bottom 9th, Yankees vs. Braves)

"It could have been worse if it had not been for Jim Thome." (1999 ALDS, Game 3, top 6th, Red Sox vs. Indians)