

Spectators' Emotions during Live Sporting Events: Analysis of Spectators after the Loss of the Supported Team at the 2013 FIFA Confederations Cup

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This study used experimental methods to compare the emotional state and self-esteem responses of spectators at live sporting events after their supported team lost, with a focus on discrepancies between the results of the event and spectators' expectations. This study was conducted at the league qualifier games of the 2013 FIFA Confederations Cup involving the Japan National Soccer Team (Japan vs. Brazil, Japan vs. Italy, and Japan vs. Mexico). The participants were 98 undergraduate students who watched these games. The results indicated that, depending on the magnitude of the discrepancy between the events' result and the spectators' expectations, there was clear reinforcement of positive or negative emotions and self-esteem responses (BIRGing and CORFing). There were also indications that discrepancies between the events' results and the spectators' expectations were important determinants of emotional arousal and self-esteem responses in the spectators.

Keywords: Spectator emotions, Disconfirmation of expectancies, BIRGing, CORFing, Sporting events

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1. Background

Watching sporting events evokes a variety of emotions in spectators. These emotions span from positive (such as being deeply moved or joyous) to negative (such as despair or anger). A variety of researchers have clarified this broad range to the point of our current understanding (e.g., Hirt et al., 1992; Kerr et al., 2005; Sloan, 1989). Researchers have found that there is a strong propensity for particular sporting-event characteristics to contribute to the spectators' emotional states (Yoshida and James, 2010). For example, feelings of enjoyment have a positive impact on spectators' satisfaction with the stadium (Kuenzel and Yashimu, 2007), and feelings of excitement have a positive impact on spectators' plans to watch future events (Sumino and Harada, 2004). In essence, spectators' emotions can be used to predict spectator behavior.

The emotional arousal of a sporting-event spectator mainly manifests as positive emotions when the

supported team achieves victory or negative emotions when that team is defeated (Hirt et al., 1992; Oshimi and Harada, 2012; Sloan, 1989). Stated differently, whether the supported team wins or loses can be a variable controlling the emotional arousal of the spectators, and there are indications that this influence is powerful. People have a tendency to associate (or disassociate) with successful (or unsuccessful) teams in order to build and/or maintain their self-esteem (Trail et al. 2012); for sporting-event spectators, this is accomplished vicariously (Sloan, 1989). Moreover, the desire for achievement is inherent in human nature (Maslow, 1943). These points notwithstanding, one problem with the use of the supported team's win or loss as a determining factor for the spectator's emotional arousal is that, even in cases in which the supported team loses, the sporting event itself may have been interesting and, thus, still inspire positive emotions (Bee and Madrigal, 2012). In the same way, even if the spectator's supported team wins, the circumstances surrounding the win will vary—the

team may have won by just one point, it may have been a comeback victory, the team may have won by a huge margin, etc.—and depending on this content, the spectator's emotional state will likely differ. Essentially, this suggests that spectators' emotions cannot be solely explained by the supported team's win or loss.

Nevertheless, much of the research that has been conducted up to this point has utilized the team's win or loss as an independent variable that predicts changes in emotional states (e.g., Hirt et al., 1992; Madrigal, 2008; Oshimi and Harada, 2012). For example, Sloan (1989) has distinguished cases in which the supported team won into the categories of a "difficult win" and an "easy win"; this analysis also took the content of the sporting event into consideration when examining cases in which the supported team lost. However, it is difficult to objectively determine whether a victory was "difficult" or "easy," and there are many instances in which a researcher is forced to rely on his or her subjectivity. As a result, the suitability of using the supported team's win or loss as a factor in defining spectators' emotions is called into question.

In consumer behavioral research, cognitive appraisal theory is frequently applied as a factor defining consumer emotions; consumers' thoughts and evaluations of a given product have an impact on emotional arousal (Oliver, 1993). This discussion is based on cognitive-motivational-relational theory (Lazarus, 1991), which proposes that cognition precedes emotional arousal. According to Lazarus (1991), individuals perceive their emotions as a result of cognitive appraisal of their environment. This suggests that spectators' cognitive appraisal of sporting events involving their supported team is a factor influencing emotional arousal. Essentially, regardless of the supported team's win or loss, it is possible to measure the spectators' cognitive appraisal in order to predict the degree of influence on emotional arousal or psychological reaction.

Trail et al. (2003) verified the influence of the spectators' disconfirmation of expectancies for the sporting event experience/outcome that corresponds to spectators' cognitive appraisal on the spectators' affective state and self-esteem responses such as "basking in reflected glory" (BIRGing) and "cutting off reflected failure" (CORFing). BIRGing is the tendency for people to publicly display bonds with others who have achieved success (Cialdini and

Borden, 1976), whereas CORFing is the tendency for people to distance themselves from others who are unsuccessful (Snyder, 1986). Both are examples of self-esteem building/maintenance behavior (Trail et al., 2003; Trail et al., 2005) and are also used as variables indicating spectators' attitudes as a function of the win or loss of the team they support. (e.g., Cialdini and Borden, 1976; Madrigal and Chen, 2008; Wann and Branscombe, 1990). In addition, Madrigal (1995) has verified the influence of spectators' disconfirmation of expectancies for the event outcome on BIRGing and spectators' enjoyment in the basketball game. In essence, Madrigal verified the premise that spectator's cognitive appraisals of sporting events have an impact on aspects of their psychological state, such as emotional arousal (enjoyment) and self-esteem responses (BIRGing). Despite this, there has been little research verifying the psychological determinative factors, such as emotion and self-esteem responses, with respect to the supported team's win or loss and the spectator's cognitive factors. Binary viewpoints have been used in the research analyses up to this point, but many believe that accumulating additional views is necessary.

The purpose of this study was to compare the emotional state and self-esteem responses of spectators following live sporting events, focusing on discrepancies between the results of the event and the spectators' expectations. This study will provide an additional insight on defining the factors that influence spectator emotions in the current research and will contribute to accumulating the research literature on spectators' emotion. Furthermore, in addition to the lack of literature focusing on spectators' emotions, excluding Oshimi & Harada (2012) and Sumino & Harada (2005), there is little investigation verifying the influence of spectators' cognitive appraisal on emotional arousal in Japan. Considering the indication that emotions were influenced by culture or country (Bagozzi et al., 1999), investigation focusing on spectators' emotion should be conducted at each country and the result will be useful for the spectator emotion research. Furthermore, this knowledge will be beneficial in determining how to manage spectator emotions regardless of whether the supported team wins or loses.

The spectators' arousal is believed to be the result of a variety of factors, such as the stimulation spectators receive when watching sporting events

(e.g., the atmosphere of the stadium, plays made by the players, and the entertainment value of the game). In sport marketing, these factors include a "core product" (i.e., player/team performance) as well as aspects classified as "ancillary services" (e.g., facility amenities; Yoshida and James, 2010). Player/team performance with respect to the core product has a particular impact on spectators' emotional arousal (Oshimi and Harada, 2013). Therefore, the focus was placed on the core product of player/team performance (Greenwell et al., 2002) in this study.

2. Hypotheses Development

First, this study operated on the premise that spectators' emotional arousal cannot be solely predicted by the supported team's win or loss. The reason is that spectators' psychological states may differ depending on the content of a game (such as games won by a narrow or wide margin) (Bee and Madrigal, 2012). Thus, a win or loss cannot sufficiently predict spectators' emotions. Accordingly, we developed the following hypothesis:

H1: Even though the results are same (win or lose), the intensity of the emotions aroused in the spectators will differ in each game.

Next, while this study measured the spectators' cognition/evaluation, it particularly focused on discrepancies between the results of the event and spectators' expectations. Depending on the extent of the discrepancy, we hypothesized that the degree of the spectators' emotional arousal would also differ. "Spectator discrepancy" is defined as the degree of difference between a spectator's expectations of a sporting event and the actual performance; depending on whether the spectator's cognition/appraisal of the actual performance of their supported team/player is high or low, a discrepancy between negative and positive expectations will arise (Leeuwen et al., 2002). Further, because studies have indicated that discrepancies between negative and positive expectations have a negative or positive impact on emotion (Bosque and Martin, 2008; Oliver et al., 1997), we have also developed the following hypotheses:

H2: A group with positive disconfirmation experiences more positive emotions than a group with negative disconfirmation with respect to discrepancies between the results of the event and spectators' expectations.

H3: A group with negative disconfirmation experiences more negative emotions than a group with positive disconfirmation with respect to discrepancies between the results of the event and spectators' expectations.

Last, we hypothesized that, depending on the degree of discrepancy between the results of the event and spectators' expectations, the extent to which spectators will experience self-esteem responses will differ. While self-esteem responses tied to success (or failure) tend to strengthen (or weaken) relationships with others, Trail et al. (2005) showed that discrepancies between results and expectations act as intermediary variables with respect to emotion, and self-esteem responses exert influence over them. Further, Madrigal (1995) and Trail et al. (2003) demonstrated that positive discrepancies in expectations exert a positive influence on BIRGing and anticipated that negative discrepancies in expectations will negatively influence CORFing. Thus, we developed the following hypotheses:

H4: A group with positive disconfirmation is more likely to reinforce BIRGing tendencies than a group with negative disconfirmation with respect to discrepancies between the results of the event and spectators' expectations.

H5: A group with negative disconfirmation is more likely to reinforce CORFing tendencies than a group with positive disconfirmation with respect to discrepancies between the results of the event and spectators' expectations.

3. Method

Participants of this study viewed live sporting events on a television in a room designated for the experiment. The purpose of this study was to conduct a verification centering on team/player performance. As such, we attempted to minimize the kind of external stimuli that occurs at stadiums (i.e., weather or applause from other spectators) as much as possible and ensured that the viewing occurred in a regulated environment. We conducted a preliminary investigation in order to confirm the validity of the question contents, testing environment, and experimental procedures, and to collect additional questionnaire items based on the spectators' emotional descriptions that were inspired by watching sport. The procedures we followed in conducting this preliminary investigation are described in the

following section.

4. Preliminary Investigation

The participants were two male and three female graduate students (average age 24.0 years, $SD = 1.41$). The target sporting event was the FIFA World Cup Asia final qualifying game played on June 4, 2013 (Tuesday), in which Japan competed against Australia (score: 1–1). We administered a paper-pencil questionnaire on 2 occasions, once 30 minutes before the start of the game (pre) and again 10 minutes after the game (post). The items on the pre-game questionnaire measured demographic information (sex, age), the participants' expectations prior to watching the game (Oliver, 2010), and involvement with the supported team (Hill and Green, 2000). For questionnaire items concerning the measurement of emotion, we utilized the Consumption Emotion Set (CES) that is used in consumer behavioral research (Richins, 1997) and the measurable emotion scale for the psychological emotions of sport spectators (Sumino and Harada, 2004), for a total of 13 factors and 31 items. For items related to event-outcome expectations, we used a seven-point scale to the question, "Today's sporting event will meet my expectations" with answers ranging from, "Strongly disagree" to "Strongly agree."

In addition to the demographic questions and questions related to pre-game emotions, the post-game questionnaire included items concerned with discrepancies between the subjects' expectations and the event outcome (Oliver et al., 1997; Oliver and Burke, 1999). The Self-Esteem Maintenance Behavior Scale (SEMBS) consisted of two subscales (BIRGing and CORFing) from Trail et al. (2003) and included a total of 6 items. In addition, there were questions designed to check participants' activity ("I was able to watch the game from beginning to end," "I couldn't watch much of the game," and "I wasn't able to watch the game at all"). For the questions concerned with discrepancies between the spectators' expectations and the event outcome, we used a seven-point scale to the question, "How much did today's sporting event meet your expectations?" with answers ranging from "much worse than expected" to "much better than expected." The emotion scale was based on CES (Richins, 1997), which is one of the most preferred emotion scales for verifying consumer behavior (Oliver, 2010), and we added several

items to our scale in consideration of the emotional arousal caused by sporting events (e.g., excitement or emotional impact) by incorporating other aspects (Sumino and Harada, 2004).

The question items were structured to measure the participants' current emotional state and utilized a seven-point Likert scale ranging from "I didn't feel anything" to "I felt very strongly." Further, we provided a free-answer section where participants could share their feelings regarding the questionnaire, experimental procedures, testing environment, and sporting event. We showed the sporting event to all the participants as a live screening using a projector (TH-LBIONT made by Panasonic) in a room designated for the study at the participants' university. In order to restrict viewing of any programming other than the game itself, we took measures to ensure that the participants did not see any pre-game, halftime, or post-game programs. In addition, to confirm whether the sport program was a stimulus for the participants, a testing proctor was in the viewing room with them to make sure they were indeed viewing the screening.

Based on the results of the participants' free-answer descriptions, we added four questionnaire items to assess feelings of discouragement, disappointment, invigoration, and encouragement. After confirming the face validity of the other questions based on the content analysis, testing environment, and experimental procedures (based on the participants' descriptions), we proceeded to the main investigation.

5. Main Investigation

The main investigation involved the 2013 FIFA Confederations Cup league qualifier games that took place from June 16 until June 23, 2013, in which the Japan National Soccer Team played three games (vs. Brazil, Italy, and Mexico.) The participants were 105 male college students (average age 19.6 years, $SD = 1.46$) who responded to recruitment flyers that were posted at their university. The participants received compensation of 1,000 JPY per hour in exchange for completing the questionnaire. We took the participants' schedules into consideration when dividing them into groups based on the soccer match viewed: Brazil game = 40 participants, Italy game = 34 participants, and Mexico game = 31 participants. Although the screening environment was the same as that used for the preliminary investigation, the viewing seats were placed at random such that no

viewer sat next to a friend or acquaintance; the participants were instructed not to have conversations with neighbors during the viewing. Two proctors were also present in the testing environment to monitor the participants. In addition to the emotional-state items on the questionnaire that were revised from the preliminary investigation (15 factors and 35 items), we added items related to the participants' supported teams. Participants who answered that they supported teams other than the Japanese team, did not support either team, or who answered, "I couldn't watch much of the game" or "I wasn't able to watch the game at all" were excluded from the analysis ($n = 7$). Thus, a total of 98 participants were included in the analysis (Brazil = 38, Italy = 34, Mexico = 26).

First, we used unitary-variance analysis to examine whether there were any differences between the participants' expectations regarding the supported team prior to the game, emotional state, and involvement with the supported team. Next, we verified via t-test the degree of emotion and self-esteem responses due to the magnitude of discrepancies between expectations and the event outcome.

This study was conducted under the review of the ethics committee established by the university, and we ensured that no student was forced to participate under any circumstances.

6. Results

With respect to the reliability of the measurement scale used in this study, $\alpha = .72-.93$ for positive emotions, $\alpha = .51-.94$ for negative emotions (excluding "envy"), and $\alpha = .79-.90$ for self-esteem responses. Thus, we determined that there was internal consistency of the construct. For "envy," $\alpha = .31$. Because this emotion has had a low value (i.e., .39) in previous research as well (Richins, 1997), we excluded it from the current analysis. "Sadness," "shame," and "loneliness" also had low reliability coefficients (.51-.55); however, previous research has suggested that for scales with only two items (i.e., "sadness" and "loneliness"), small values (i.e., .50) can be acceptable (Nunnally and Bernstein, 1994). With respect to "shame" (three items), previous research has suggested that scales with a small number of items might have a low reliability (Zhang et al., 2001). Moreover, several studies have applied scales that had comparatively low (i.e.,

under .55) reliability (e.g., Braunstain et al., 2005; Petrick et al., 2001; Richins, 1997; Zang et al., 2001). Thus, all of these factors were deemed to have an acceptable degree of reliability. The measurement scale used in this study was composed of a total of 14 factors and 33 items (see Appendix). There were no differences between participants' pre-test (i.e., pre-game) expectations based on which game was viewed (Brazil game mean = 4.58, SD = 1.29; Italy game mean = 4.29, SD = 1.45; Mexico game mean = 4.58, SD = 1.24; $F(2, 95) = 0.50$, n. s.), and we observed no significant differences in the space between each emotional state (**Table 1**). As we also observed no between-group differences in participants' involvement with their supported team (Brazil game mean = 4.20, SD = 1.34; Italy game mean = 4.39, SD = 1.53; Mexico game mean = 4.31, SD = 1.45; $F(2, 95) = 0.16$, n. s.), we determined that there was homogeneity of the construct.

The Japan National Soccer Team lost all three games targeted in the study (vs. Brazil = 0-3; vs. Italy = 3-4; vs. Mexico = 1-2). For Hypothesis 1 regarding differences in spectators' emotional intensity following the games, we found significant differences for the 14 factors between each of the three games based on the results of multivariate variance analysis (MANOVA) (Wilks's $\lambda = .264$, $F(28, 164) = 5.537$, $p < .001$). Regarding the intensity of spectators' emotions following each sporting event, a unitary-variance analysis indicated significant differences for "anxiety" ($F(2, 95) = 3.33$, $p < .05$), "loneliness" ($F(2, 95) = 4.33$, $p < .05$), "outrage" ($F(2, 95) = 4.12$, $p < .05$), "pride" ($F(2, 95) = 31.57$, $p < .001$), "peacefulness" ($F(2, 95) = 9.13$, $p < .001$), "joy" ($F(2, 95) = 30.68$, $p < .001$), "excitement" ($F(2, 95) = 23.49$, $p < .001$), "surprise" ($F(2, 95) = 31.39$, $p < .001$), "delight" ($F(2, 95) = 22.95$, $p < .001$), and "encouraged" ($F(2, 95) = 21.51$, $p < .001$) (**Table 2**). In our subsequent verification using Tukey's method, we observed the particularly strong influence of positive emotions during the Italy game compared to the other two games ($p < .001$), and we also observed differences in the influence of negative emotions during each game. However, there were no significant differences among "anger", "sadness", "shame", and "disappointment" responses; thus, Hypothesis 1 was partially supported by the fact that the most spectators' emotional levels differed even though the results of the games were same (i.e., all three games were lost).

Table 1 Mean pre-match scores for negative and positive emotions

Negative emotions				Positive emotions			
Factor	Group	Pre-match (SD)	F	Factor	Group	Pre-match (SD)	F
Anger	vs. BRA	1.13 (0.42)	2.52	Pride	vs. BRA	1.81 (1.19)	0.66
	vs. ITA	1.47 (0.99)			vs. ITA	1.54 (0.84)	
	vs. MEX	1.48 (0.87)			vs. MEX	1.77 (1.10)	
Anxiety	vs. BRA	2.08 (1.01)	0.15	Peacefulness	vs. BRA	1.97 (1.17)	0.28
	vs. ITA	1.99 (1.32)			vs. ITA	1.79 (0.81)	
	vs. MEX	1.92 (1.27)			vs. MEX	1.87 (0.95)	
Sadness	vs. BRA	1.43 (0.86)	0.94	Joy	vs. BRA	2.37 (1.45)	0.41
	vs. ITA	1.37 (0.79)			vs. ITA	2.07 (1.17)	
	vs. MEX	1.65 (0.93)			vs. MEX	2.24 (1.44)	
Shame	vs. BRA	1.26 (0.61)	0.79	Excitement	vs. BRA	3.05 (1.41)	2.67
	vs. ITA	1.43 (0.78)			vs. ITA	2.30 (1.29)	
	vs. MEX	1.29 (0.41)			vs. MEX	2.65 (1.52)	
Loneliness	vs. BRA	1.49 (0.96)	0.76	Surprise	vs. BRA	1.51 (1.16)	0.38
	vs. ITA	1.63 (0.96)			vs. ITA	1.32 (0.63)	
	vs. MEX	1.81 (1.32)			vs. MEX	1.42 (0.89)	
Outrage	vs. BRA	1.03 (0.16)	1.26	Delight	vs. BRA	1.42 (0.82)	1.29
	vs. ITA	1.09 (0.43)			vs. ITA	1.26 (0.56)	
	vs. MEX	1.21 (0.77)			vs. MEX	1.59 (1.04)	
Disappointment	vs. BRA	1.20 (0.60)	1.29	Encouraged	vs. BRA	1.58 (0.90)	1.69
	vs. ITA	1.31 (0.94)			vs. ITA	1.21 (0.48)	
	vs. MEX	1.52 (0.94)			vs. MEX	1.50 (1.18)	

Note. BRA = Brazil, ITA = Italy, MEX = Mexico

Table 2 Mean post-match scores for negative and positive emotions

Negative emotions					Positive emotions				
Factor	Group	Post-match (SD)	F	Post-hoc	Factor	Group	Post-match (SD)	F	Post-hoc
Anger	vs. BRA	2.08 (1.18)	2.51	n.s.	Pride	vs. BRA	1.58 (0.88)	31.57***	BRA < ITA MEX < ITA
	vs. ITA	2.43 (1.61)				vs. ITA	3.38 (1.45)		
	vs. MEX	2.84 (1.59)				vs. MEX	1.53 (0.96)		
Anxiety	vs. BRA	1.89 (1.20)	3.33*	ITA < MEX	Peacefulness	vs. BRA	1.45 (0.65)	9.13***	BRA < ITA MEX < ITA
	vs. ITA	1.49 (0.91)				vs. ITA	2.23 (1.30)		
	vs. MEX	2.40 (1.57)				vs. MEX	1.45 (0.74)		
Sadness	vs. BRA	1.99 (1.08)	2.68	n.s.	Joy	vs. BRA	1.52 (0.76)	30.68***	BRA < ITA MEX < ITA
	vs. ITA	2.57 (1.25)				vs. ITA	3.15 (1.43)		
	vs. MEX	2.53 (1.43)				vs. MEX	1.61 (0.86)		
Shame	vs. BRA	1.62 (0.81)	0.21	n.s.	Excitement	vs. BRA	3.28 (1.38)	23.49***	BRA < ITA MEX < ITA
	vs. ITA	1.63 (0.72)				vs. ITA	5.28 (1.27)		
	vs. MEX	1.76 (0.92)				vs. MEX	3.35 (1.53)		
Loneliness	vs. BRA	1.78 (1.00)	4.33*	ITA < BRA MEX < BRA	Surprise	vs. BRA	3.65 (1.68)	31.39***	BRA < ITA MEX < ITA MEX < BRA
	vs. ITA	1.32 (0.56)				vs. ITA	5.51 (1.10)		
	vs. MEX	1.35 (0.66)				vs. MEX	2.63 (1.41)		
Outrage	vs. BRA	1.45 (0.85)	4.12*	BRA < MEX ITA < MEX	Delight	vs. BRA	2.12 (1.22)	22.95***	BRA < ITA MEX < ITA
	vs. ITA	1.45 (0.98)				vs. ITA	4.07 (1.71)		
	vs. MEX	2.11 (1.40)				vs. MEX	2.15 (1.04)		
Disappointment	vs. BRA	2.86 (1.53)	0.93	n.s.	Encouraged	vs. BRA	1.99 (1.07)	21.51***	BRA < ITA MEX < ITA
	vs. ITA	3.16 (1.40)				vs. ITA	3.85 (1.78)		
	vs. MEX	3.40 (1.80)				vs. MEX	1.95 (1.29)		

Note. BRA = Brazil, ITA = Italy, MEX = Mexico

* $p < .05$, *** $p < .001$

In order to verify Hypotheses 2, 3, 4, and 5, responses of “met my expectations” (i.e., a score of 4.00) were excluded from our analysis ($n = 9$). We calculated the mean and median values for the degree of discrepancy between the spectators' expectations and game results for all three games (mean value = 4.45, median value = 5.00). In considering this study's design with respect to testing our hypotheses and mean value, we placed responses of “slightly better” and “much better than expected” (i.e., scores on the seven-point scale that ranged from 5.00 to 7.00) in the “positive discrepancy in expectations” group ($n=51$), and responses of “much worse than expected” and “slightly worse” (i.e., scores ranging from 1.00 to 3.00) in the “negative discrepancy in expectations” group ($n=38$).

Regarding the level of emotional arousal and self-esteem responses due to the magnitude of the discrepancy between spectators' expectations and the event outcome, we found significant differences

between the negative and positive disconfirmation groups for the 16 factors based on the results of MANOVA (Wilks's $\lambda = .238$, $F(32, 160) = 5.240$, $p < .001$). Next, t-tests were conducted for each dependent variable when positive discrepancies in expectations were observed to compare the positive and negative discrepancy groups, and we found that the degrees of all positive emotions were reinforced; thus, Hypothesis 2 was supported (**Table 3**). When negative discrepancies in expectations were observed, comparison between the two groups indicated that the degrees of most negative emotions were reinforced, but there were no significant differences among “sadness” and “anger” responses; thus, Hypothesis 3 was partially supported (Table 3).

Lastly, in verifying Hypotheses 4 and 5, when we compared the positive and negative discrepancy groups, we found that BIRGing tendencies were reinforced in the positive discrepancy group and that CORFing tendencies were stronger in the negative

Table 3 Mean negative and positive disconfirmation for negative and positive emotions

Negative emotions	Negative disconfirmation ($n = 38$)	Positive disconfirmation ($n = 51$)	t-value
Anger	3.00 (1.61)	2.15 (1.42)	2.65
Anxiety	2.45 (1.61)	1.46 (0.85)	3.45**
Sadness	2.42 (1.24)	2.36 (1.29)	0.21
Shame	1.90 (0.99)	1.52 (0.69)	2.03*
Loneliness	1.74 (0.97)	1.36 (0.69)	2.03*
Outrage	2.13 (1.41)	1.36 (0.86)	2.97**
Disappointment	3.71 (1.70)	2.80 (1.39)	2.69*
Positive emotions			
Pride	1.29 (0.49)	2.89 (1.56)	6.91***
Peacefulness	1.32 (0.63)	1.95 (1.20)	3.25*
Joy	1.23 (0.41)	2.71 (1.43)	7.06***
Excitement	3.16 (1.35)	4.83 (1.49)	5.45***
Surprise	3.03 (1.68)	5.00 (1.51)	5.84***
Delight	1.81 (1.02)	3.67 (1.67)	6.49***
Encouragement	1.68 (1.04)	3.37 (1.75)	5.67***
Self-esteem responses			
BIRGing	3.39 (1.46)	4.29 (1.57)	2.78**
CORFing	1.68 (1.00)	1.18 (0.53)	2.80**

* $p < .05$, ** $p < .01$, *** $p < .001$

Note. Negative disconfirmation = 1–3, positive disconfirmation = 5–7, values of 4 (“just as expected”) were excluded

discrepancy group; thus, Hypotheses 4 and 5 were supported (Table 3).

7. Discussion

The fact that Hypothesis 1 (in part) was supported is an indication that spectators' emotions cannot be solely explained by the team's win or loss. In particular, positive emotions were stronger during the Japan vs. Italy game than during the other two games. As a result of the positive discrepancies between spectators' expectations and the game outcome, we expected that positive emotions would be reinforced. In actuality, comparisons between the Italy and the other two games revealed a high degree of discrepancy post-game (Brazil game mean = 3.53, SD = 1.50; Italy game mean = 6.38, SD = 0.55; Mexico game mean = 3.27, SD = 1.22; $F(2, 95) = 71.14, p < .01$). Thus, we assume that positive emotions were aroused in the spectators. The current results, as well as other cases in which a spectator's supported team lost, suggest that the game content was enjoyable and aroused positive emotions, in line with the indications of Bee and Madrigal (2012). The Italy game was actually a closer match than the other two games, and we think that the spectators performed a positive cognitive appraisal of the match.

In addition, the fact that Hypotheses 2 and 3 (in part) were supported is an indication that discrepancies between spectators' expectations and the game outcome were an important determining factor for emotional arousal. As seen in previous studies, in spectator sport where team/player performance is the core product, the degree of impact on a spectator's emotional arousal can be understood by using the win/loss of the supported team as an independent variable (e.g., Hirt et al., 1992; Madrigal, 2008; Oshimi and Harada, 2012). However, because there are indications that impact on emotional state differs even in cases in which the results of the games were same, the magnitude of the discrepancy between expectations and outcome is also a valid independent variable. These results also demonstrate that cognition occurs prior to emotion and are consistent with cognitive-motivational-relational theory (Lazarus, 1991).

Hypotheses 4 and 5 were supported by results demonstrating that discrepancies between spectator expectations and event outcome influence BIRGing and CORFing tendencies, and this is in line with the

indications of Madrigal (1995) and Trail et al. (2003). However, while there are general indications that winning a game will reinforce BIRGing tendencies (Cialdini and Borden, 1976), the fact that the Japanese team lost all of the games in this study and BIRGing tendencies were still reinforced raises deeply interesting questions. That BIRGing tendencies were still reinforced even though the supported team lost suggests that the spectators' expectations were exceeded. Accordingly, marketers can strengthen spectators' relationships with their supported teams even in cases in which those teams lose; marketers should recognize that these spectators will want to publicize these tendencies. Thus, we believe that it is necessary for teams to always strive to establish a platform for strengthening relationships between spectators, the team, and its players. For example, while the Japan National Soccer Team uses its official Facebook page to provide updates on its latest news and to post pictures, interviews, and articles, we believe it is necessary for the team to further consider ways to strengthen connections with fans by making the most of online content, such as by posting post-game commentary and videos.

We also believe, based on the results of this study, that controlling discrepancies between expectations about the supported team and the game outcomes is vital because there was a clear indication that the magnitude of these discrepancies exerts a positive or negative influence on emotional state and self-esteem responses. For example, one of the positive emotions, "delight," can cause one to become emotionally moved. Because this emotion is aroused when one's expectations are significantly exceeded (Oliver et al., 1997), this suggests that it is necessary to exceed spectators' expectations. Trail et al. (2003) indicated the necessity of controlling fans' expectations through media; for example, by mentioning the strength of the opposing team before a game or the difficulty the supported team has in winning can cast the team's victory as an "unexpected win," and we believe such communication is important.

8. Conclusion and Limitations

The primary significance of this study is that it suggests that discrepancies between spectator expectations and game outcomes can be used as a variable for measuring emotional arousal in sporting-event spectators instead of using whether the

supported team won or lost. In addition, this study is significant because, while nearly all of the prior studies on this topic have used field investigations to conduct verifications, we used experimental methodology and verified results while focusing on team/player performance as the core product. Further, background concepts like emotion differ depending on the country and culture, and with the exception of Oshimi and Harada (2012), there have been no other studies applying this experimental approach in Japan, which makes these data more valuable.

On the other hand, it is necessary to exercise caution when generalizing the results of this study, because it was limited by the fact that it only included male college students and used only three sporting events. In addition, there are limitations to the validity and reliability of the scales utilized in this study. Further, because the participants were divided into groups based on the days on which they were able to participate, we did not randomly assign participants to groups. Moreover, because the results of this study were based on three games in which the supported team lost, almost all the calculated variables had low values. We conducted our analyses while focusing on the degree of post-game discrepancy between expectations and game outcome, but it is necessary to recognize when interpreting the data that the values for the dependent-variable emotions and self-esteem responses were low from the outset. In addition, the sport core product noted in this study was derived from studies based on team/player performance, and we did not consider aspects obtainable through stadium spectatorship, such as customer service and the stadium atmosphere. We believe that these factors, in addition to the core product, could be manageable by sport marketers. As such, we believe that further research that focuses on these factors is necessary.

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APPENDIX (Measurement scale)

Negative emotions	Positive emotions
Anger ($\alpha = .86$)	Pride ($\alpha = .72$)
Frustrated	Pride
Angry	Glory
Anxiety ($\alpha = .84$)	Peacefulness ($\alpha = .81$)
Nervous	Calm
Worried	Peaceful
Sadness ($\alpha = .51$)	Relieved
Depressed	Joy ($\alpha = .86$)
Sad	Happy
Shame ($\alpha = .54$)	Joyful
Embarrassed	Pleased
Ashamed	Excitement ($\alpha = .85$)
Humiliated	Excited
Loneliness ($\alpha = .55$)	Enthused
Lonely	Stimulated
Homesick	Surprise ($\alpha = .93$)
Outrage ($\alpha = .94$)	Astonished
Rage	Surprised
Outrage	Delight ($\alpha = .90$)
Disappointment ($\alpha = .79$)	Delighted
Discouraged	Gleeful
Disappointed	Elated
	Motivation ($\alpha = .86$)
	Invigorated
	Encouraged
Self-Esteem Maintenance Behavior Scale (SEMBS)	
BIRGing ($\alpha = .90$)	
	I would like to increase my association with this team
	I would like to publicize my connection with this team
	I would like to tell others about my association with this team
CORFing ($\alpha = .79$)	
	I do not want to support this team any longer
	I do not wish to be a fan of this team after today's performance
	I would like to disconnect myself from this team



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