Team Chemistry: Apologizing Beats Blaming on the Basketball Court

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ABSTRACT

Apologizing to teammates for a mistake or blaming teammates for their mistakes superficially appear to be forms of cheap talk that theoretically should have no consequences, but responsibility exchange theory posits that these communications, which attribute responsibility for mistakes, impact the social image and self-image of both the communicator and the target of communication. As a result, these communications have implications for interpersonal relationships between team members, i.e., apologies and finger-pointing do have consequences. We test whether team performance correlates with whether team members apologize for their own mistakes or blame each other, using an original dataset of on-court communications during professional basketball games. We find that conditional on a mistake occurring and being communicated about, the probability that the communication takes the form of an apology (a blame) increases (decreases) with the performance of the team across the season. This evidence lends support to the proposition that taking responsibility for mistakes rather than blaming others improves team chemistry and that team chemistry has a measurable impact on team performance.

Keywords: Cheap Talk; Team Performance; Responsibility Attribution; Interpersonal Communication; Conflict Management

MAIN TEXT

1. Introduction

[Aaron] Burr would be satisfied with nothing less than a wholesale and unqualified apology for all previous remarks about his personal and political character [by Alexander Hamilton]… it must be a blanket apology (p. 35).

- Ellis, Joseph J. "Founding Brothers: The Revolutionary Generation." Knopf Doubleday Publishing Group. 2003.

Alexander Hamilton died in a duel with Aaron Burr, but he need not have risked his life. Being politicians in opposing parties, Hamilton had said many negative things about Burr in public, and Burr wanted Hamilton to retract those statements, to fully apologize. Hamilton could have simply apologized to Burr, but he refused to do so. The conflict between the two American founding fathers escalated: Burr challenged Hamilton to a duel in which Hamilton ultimately lost his life. Was Hamilton a fool (or, as we typically put it, irrational)? Why wasn't Hamilton willing to simply apologize? And would an apology really have saved Hamilton's life? After all, aren't apologies "cheap talk"—free to give away and therefore ineffective?

If Hamilton had apologized, he would have lost the respect of those political colleagues on whom his reputation depended (Ellis, 2003, p. 38). This anecdote illustrates that while apologies do not necessarily involve a material cost, they often involve a social or image-based cost. Apologizing can hurt the reputation of the apologizer, and it can hold a great deal of positive value for the target of the apology. This positive value goes beyond simply revealing that the transgressor did not intend to harm the victim; as some evidence suggests, victims want apologies even when the transgressor *intended* to hurt the victim (Leunissen, De Cremer, Reinders Folmer, & van Dijke, 2013). According to "responsibility exchange theory", the reason even "simple" apologies—that is, admissions of responsibility and regret not accompanied by other reparations —can have material impacts is that they are *not* cheap talk (Chaudhry & Loewenstein, 2017). Apologies reveal information to onlookers and, as a result, involve incurring a cost to one's image along with boosting the recipient's image. People care about

both their social image and their self-image (see, e.g., Dana, Weber, & Kuang, 2007; Grossman & Weele, 2013), so these costs and benefits are very real.

This underlying value can help explain the fact that research documents that apologizing plays a causal role in reducing and resolving interpersonal conflict. For instance, there is much evidence not only that forgiveness is more forthcoming following an apology (Darby & Schlenker, 1982; Haesevoets, Reinders Folmer, De Cremer, & Van Hiel, 2013; Hodgins & Liebeskind, 2003; Maio, Thomas, Fincham, & Carnelley, 2008; McCullough et al., 1998; McCullough, Worthington, & Rachal, 1997; Morewedge, Gilbert, & Wilson, 2005), but that apologies can also reduce aggression from the victim and reduce the desire to retaliate in response to the initial infraction (Abeler, Calaki, Andree, & Basek, 2010; Darby & Schlenker, 1982; Dijke & Cremer, 2011; Ho, 2012; Ho & Liu, 2011; Schlenker & Darby, 1981).

Responsibility exchange theory proposes specifically that apologizing involves a costly exchange of responsibility: Apologizing admits responsibility for causing a negative outcome, which results in a negative evaluation of one's competence in the eyes of onlookers. At the same time, apologizing alleviates the victim (and others) of responsibility and negative attributions by onlookers. Blaming, on the other hand, is a way for the victim to alleviate themselves of negative attributions to their competence by shifting those to the transgressor. However, blaming, too, has a cost. While apologizing is seen as a generous act on the part of the communicator—accepting the reputational cost associated with apologizing can be seen as an altruistic choice that makes people more likable—blaming is seen as a selfish act on the part of the communicator, who is shifting responsibility (along with reputational damage) onto someone else. As a result, the theory predicts that apologizing aids in the mending of interpersonal relationships, while blaming is more likely to erode personal relationships. In this paper, we investigate whether apologizing and blaming, because of their role in conflict reduction and escalation, respectively, are related to the performance of teams. Specifically, we test whether the performance of professional basketball teams is associated with the incidence of apologizing and blaming on the court following mistakes.

An important motivator of this work is research linking interpersonal conflict with reduced performance. While most interpersonal conflicts today do not escalate to the level of dueling, they often escalate to a level that disrupts team performance. Amason (1996) found that, among top management teams across 69 different firms, emotionally-laden conflict was

associated with reduced decision quality. As Amason writes, such interpersonal conflict may lead to "cynicism, avoidance, or counter-effort that could undermine consensus and affective acceptance and jeopardize decision quality" (p. 129). Even low intensity infractions that involve disrespect of coworkers—something that failing to apologize could be categorized as—can impact performance. People who are targets of rude or disrespectful behavior often retaliate in a way that is covert and difficult to detect, but can nonetheless hurt the performance of the team or organization. For instance, Pearson and Porath found that many such targets will shirk on work effort, while some will even take more harmful steps such as stealing or engaging in sabotage (Pearson & Porath, 2005).

Another reason low interpersonal conflict may be associated with performance is that smooth interpersonal relations characterize group cohesion (or group chemistry), and strong group cohesion is generally associated with better team performance (see Castaño, Watts, & Tekleab, 2013; Evans & Dion, 1991). Making the connection to our research question more explicit, researchers find that team cohesiveness is enhanced by patterns that suggest more apologizing and less blaming: In cohesive teams, group members attribute more responsibility for failure to themselves and less responsibility to their teammates (along with the opposite pattern for attributions of responsibility for success) (Taylor & Doria, 1981; Taylor, Doria, & Tyler, 1983). Though group members may privately hold the opposite, more self-serving beliefs about attribution, they tend to express the more generous view in public, seemly aware of the interpersonal consequences of self-serving attribution styles (Miller & Schlenker, 1985). More generally, a group's propensity toward social sensitivity is associated with a collective intelligence factor that correlates with group performance across tasks (Woolley, Chabris, Pentland, Hashmi, & Malone, 2010). In sum, socially sensitive attribution styles help establish good relationships with team members, which can lead to higher levels of cooperation and better team performance.

Because apologies have the power to stop a negative spiral of interpersonal interactions that results from conflict, we expected basketball team performance to be associated with the extent to which teammates are willing to offer apologies (instead of blaming) after infractions that affect the team. We use a sports context because it is one of the rare instances in which actions involved in teamwork can be observed: The games usually take place in front of audiences, and are often broadcast to the general public. Not only are mistakes visible to

onlookers, but so are communications that happen between teammates immediately following those events. As a result, televised sports present unique opportunities to analyze the relationship between apologizing (and blaming) and performance outcomes.

The sport of basketball, in particular, is a good context for examining this because most plays involve multiple players sharing responsibilities and players often communicate openly (and television cameras provide unobstructed views of this communication). On the basketball court, there is a lot of potential for small infractions to occur, such as players failing to be in the right position on the court or taking a bad shot. Such infractions could easily be followed by negative reciprocity, or retaliation on the part of the affected teammates. For example, if an open player does not receive a pass from a "ball hog" and the mistake is not acknowledged, then on the next possession he might take a bad shot rather than pass back to that teammate. This retaliation may also be accompanied by the victim blaming the transgressor, which could make the transgressor resentful towards their teammates. Like other forms of workplace incivility, we expected that these behaviors could easily lead to a negative spiral of retaliation, hurting team cohesion, and that apologizing could prevent such a spiral.

Overall, we found that when mistakes or negative events occurred—that is, any event in which apologizing or blaming occurred—members of better performing teams were more likely than members of worse teams to apologize rather than to blame. Looked at another way, whether the response to a negative event was to apologize or blame was predicted by the team's performance. Our paper, we believe, is the first to establish a direct link between apologizing (i.e., taking responsibility for failure) and better team performance.

2. Data

Dataset

Game sample: Our observations come from National Basketball Association (NBA) games during the 2016-2017 season. We recruited 10 coders from the undergraduate Tartan Sports Analytics Club at Carnegie Mellon University. Together the coders watched 31 of the 1230 games played during the regular season. Coders chose the games they wanted to watch themselves (along with watching a few that we requested to make sure that we had coverage of poorer performing teams, too). The list of the games watched can be found in Table A1 in the

appendix. For this reason, our dataset does not include an equal number of games for each team in the league. Of the 30 teams in the league, 28 teams were observed an average of 2 times each (range: 1 to 8 times). Only two teams—the Indiana Pacers (IND) and Chicago Bulls (CHI)—were not observed at all. Table 1 lists the teams and the number of games recorded for each.

Coding of communication events: Coders recorded every incident in which players on the court either apologized to their teammate(s) or blamed a teammate after a mistake. To determine what body language could be categorized as such, we developed codes in conjunction with the coders, who had much previous experience observing professional basketball teams. We established four codes to define a player's apologizing behavior: tapping his chest, putting his head in his hands, verbally apologizing to a teammate, and raising his hand up. We established three codes to define a player's blaming behavior: yelling at his teammate, putting his arms out and making a confused expression as if to gesture "what happened?", and shaking his head at the teammate. Because individual players behave quite differently, we also allowed coders to introduce new codes that did not fit into one of the pre-defined categories. Other apologizing codes included clapping and giving a high five to another teammate, while other blaming codes were pointing to the player that made the mistake and talking to that player.[1]

Team performance statistics: Overall team performance metrics were obtained from an online database located at stats.nba.com. For each team in our dataset, we recorded the total number of games won during the 2016-2017 regular season. We calculated each team's average scoring margin by the following procedure: (1) for each game, we subtracted the number of points scored by the team's opponent from the number of points scored by the team; (2) we summed this difference across all 82 games played by the team in the season; and (3) we divided that number by the total number of games played (i.e., 82).

Descriptive Statistics

Table 1 summarizes the dataset. The average number of games won by teams in our dataset was 41 (SD = 11.6), and the average scoring margin was -0.01 (SD = 4.5), ranging from -6.7 to 11.6. We observed an average of 3.3 mistakes involving communication for each team (SD = 3.8), ranging from 0 to 19 events per team. Of the 23 teams that had at least one

[1] Coders also attempted to record incidents in which players thanked their teammates or bragged after successful plays, but we found it hard to distinguish bragging from celebrating and we consider this data to be somewhat unreliable.

communication event about a mistake, the average apologize rate—i.e., apologize count divided by total negative events—was 0.54 (SD = 0.4) with a range of 0 to 0.8.

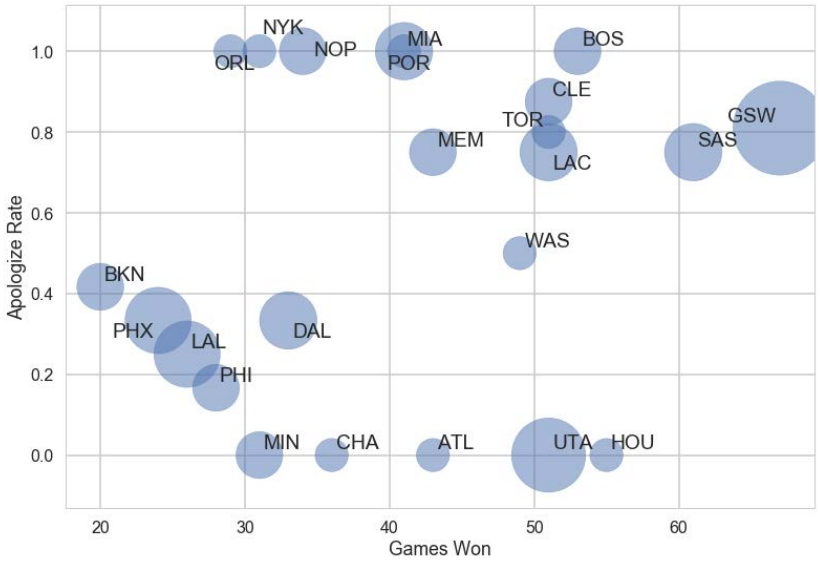
Figures 1 and 2 plot the apologize rate against two performance metrics: games won and average scoring margin, respectively. The size of the dots represents the number of games recorded for that team.

Table 1. Summary of Team Statistics

Team	*Abbrev.*	*Games Won*	*Average Scoring Margin*	*Games Recorded*	*Apologize Count*	*Blame Count*	*Total Negative Events*	*Apologize Rate*
Golden State Warriors	GSW	67	11.6	8	15	4	19	0.8
San Antonio Spurs	SAS	61	7.2	3	2	1	3	0.7
Houston Rockets	HOU	55	5.8	1	0	3	3	0.0
Boston Celtics	BOS	53	2.6	2	2	0	2	1.0
Cleveland Cavaliers	CLE	51	3.2	2	5	1	6	0.8
LA Clippers	LAC	51	4.3	3	3	2	5	0.6
Toronto Raptors	TOR	51	4.2	1	4	1	5	0.8
Utah Jazz	UTA	51	3.9	5	0	2	2	0.0
Washington Wizards	WAS	49	1.8	1	1	1	2	0.5
Oklahoma City Thunder	OKC	47	0.8	2	0	0	0	NA
Atlanta Hawks	ATL	43	-0.9	1	0	1	1	0.0
Memphis Grizzlies	MEM	43	0.5	2	4	3	7	0.6
Milwaukee Bucks	MIL	42	-0.2	1	0	0	0	NA
Miami Heat	MIA	41	1.1	1	2	0	2	1.0
Portland Trail Blazers	POR	41	-0.5	3	2	0	2	1.0
Denver Nuggets	DEN	40	0.5	1	0	0	0	NA
Detroit Pistons	DET	37	-1.1	1	0	1	1	0.0
Charlotte Hornets	CHA	36	0.2	1	0	5	5	0.0
New Orleans Pelicans	NOP	34	-2.1	2	1	0	1	1.0
Dallas Mavericks	DAL	33	-2.9	3	1	2	3	0.3
Sacramento Kings	SAC	32	-3.9	2	0	0	0	NA
Minnesota Timberwolves	MIN	31	-1.1	2	0	0	0	NA
New York Knicks	NYK	31	-3.7	1	2	0	2	1.0
Orlando Magic	ORL	29	-6.6	1	1	0	1	1.0
Philadelphia 76ers	PHI	28	-5.7	2	1	3	4	0.3
Los Angeles Lakers	LAL	26	-6.9	4	2	6	8	0.3
Phoenix Suns	PHX	24	-5.6	4	1	2	3	0.3
Brooklyn Nets	BKN	20	-6.7	2	2	3	5	0.4

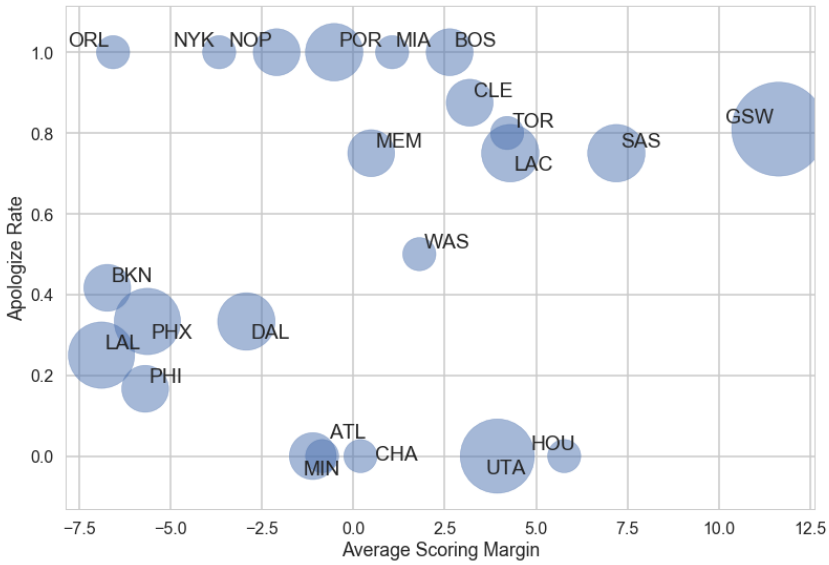
Note: *Games Won* and *Average Scoring Margin* are season-level performance metrics, meaning they are calculated across all games played by the team during the season, not just the games recorded. *Apologize Count*, *Blame Count*, *Total Negative Events*, and *Apologize Rate* are based only on games observed for this dataset. The *Apologize Rate* is calculated by dividing the *Apologize Count* by the *Total Negative Events.* Only two of the 30 NBA teams were not observed: Indiana Pacers and Chicago Bulls.

Figure 1. Apologize Rate vs. Games Won



Note: Size of each dot represents number of games recorded for that team.

Figure 2. Apologize Rate vs. Average Scoring Margin



Note: Size of each dot represents number of games recorded for that team.

3. Empirical Specifications

Responsibility exchange theory predicts two distinct effects: apologizing should help teammates maintain good relations, leading to better team performance, and blaming should generate ill will and hurt team performance. Unfortunately, our dataset does not allow us to cleanly test these two predictions separately. On one hand, apologizing and blaming only occur after mistakes, and we cannot separate out the effect of communications about responsibility for mistakes from the effect of the mistakes themselves. On the other hand, apologizing and blaming may correlate with overall levels of communication, and, since we recorded only mistakes that were communicated about, we cannot separate out the effect of communicating about responsibility from the effect of communicating more generally about anything. In both cases, though, we may reasonably assume that the confounding effects are the same for apologies and for blames. Thus, we can test the joint prediction: conditional on there being a communication about responsibility for a mistake (i.e., either an apology or a blame), team cohesiveness and, in turn, team performance should be better if the communication takes the form of an apology rather than a blame.

While we like to think of team performance as the response and communication style as the explanatory variable, we have relatively good measures of team performance (namely, number of wins and net score difference) and sparse, noisy data on communications. For this reason, we invert the relationship and run a logistic regression estimating how the odds that a negative event is an apology (vs. a blame) depend on team performance. Letting p be the probability that such a communication is an apology, we estimate:

$$\log\frac{p}{1-p} = \alpha + \beta\,\text{Perf} + \varepsilon.$$

In model 1 we use number of wins as our measure of team performance, and in model 2 we use net score difference. In both cases we assume clustered standard errors by team.

Models 1 and 2 treat all observations of communications about mistakes symmetrically, but we should recognize that our dataset contains more observations of particularly good teams (which our coders were more interested in watching). To address this imbalance in our data, in models 3 and 4 we introduce random effects at the team level. These models take account of the pattern that observations are clustered by team. We estimate

$$\log\frac{p}{1-p} = \alpha + \beta\,\text{Perf} + \gamma_j + \varepsilon$$

$$\gamma_j \sim N\left(0, \sigma_\gamma^2\right),$$

where the subscript *j* indexes over teams. Once again, in model 3 we use number of wins as our measure of team performance, and in model 4 we use net score difference.

4. Results

Table 2 shows how the log odds of a communication about a mistake being an apology (rather than a blame) are increasing with team performance. The results of the four specifications are presented in each column of the table. Columns 1 and 2 take account of clustered standard errors at the team level. Columns 3 and 4 include random effects for each team. Regardless of which specification we adopt, both performance metrics — games won and average scoring margin — are positively related to the log odds of an event being an apology rather than a blame. A one-unit increase in games won is associated with a 4% increase ($e^{0.043}$) in the likelihood that an event would be an apology rather than a blame. A one point increase in average scoring margin is associated with a 10% increase ($e^{0.097}$) in the likelihood that an event would be an apology rather than a blame. Thus, team performance is highly correlated with the way a team communicates about its mistakes.

Table 2. Results of Models 1 – 4

	DV = Log odds that event is an apology (rather than a blame)							
	Models with Clustered Standard Errors				Random-effects Models			
	(1)		(2)		(3)		(4)	
Intercept	-1.726	**	0.042		-1.726	*	0.047	
	(0.542)		(0.232)		(0.704)		(0.241)	
Games Won	0.043	***			0.043	**		
	(0.011)				(0.015)			
Average Scoring Margin			0.097	***			0.095	*
			(0.022)				(0.041)	
Observations	92		92		92		92	

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

One concern is that these results are driven by the overrepresentation of one team in the data: GSW. Not only did this team win the most games and have the highest average scoring

margin, but our coders recorded more games (and thus more communications) for GSW than for any other team. One way to eliminate this concern is to run the same analysis after removing the GSW data, however this also removes over 20% of our data and significantly reduces our power to detect the effect. These analyses did not produce qualitatively different coefficients, though not surprisingly due to the smaller sample size, they failed to produce significant effects (see Table A2 in the appendix). Consistent with the issue being a lack of power, the coefficient on games won (column 1) displayed a marginally significant positive association with the log odds of an event being apologizing rather than blaming.

5. Conclusion

The primary purpose of this paper is to examine the team performance consequences of apologizing and blaming. Examining apologizing and blaming behavior among teammates of 27 professional basketball teams across 31 games, we found that the probability of communication between teammates following a mistake taking the form of an apology rather than a blame was greater for better performing teams. This is the first evidence linking the tendency to apologize rather than blame following mistakes to team performance. Future research should aim to test the strength of this relationship across a variety of domains to explore the range of its validity.

One limitation of our data is that we cannot be sure of the causal direction in the relationship between apologizing and performance. There are several causal pathways that could lead to this relationship (and they are not mutually exclusive). For instance, it could be that better performing teams are happier because they are winning and then find it easier to communicate positively. Another possible explanation is that top-performing teams might recognize mistakes among themselves more readily. However, this latter explanation would lead to both more apologizing and more blaming, which we do not find. The most natural explanation, in our view, is that apologizing for your own mistakes and not blaming teammates for their shortcomings may indeed causally improve performance: it may well reduce conflict and help to create norms of selflessness that foster cooperation. Teams that develop a culture of apologizing for one's own mistakes might therefore be more successful.

Given our finding that apologizing for one's own mistakes and not blaming teammates for theirs helps improve team performance, it is reasonable to ask why players do not always communicate so productively. In our view, players who communicate counterproductively are

not necessarily doing so irrationally. Players naturally care about looking good on the court and do not want to be known for making mistakes. They are forced to balance their concern for their own reputation against the good of the team, and may choose both to apologize and to blame in different contexts. Good team leaders, perhaps, may shoulder the responsibility of creating a team culture that encourages productive forms of communication.

Knowing how to mitigate conflict between individuals is important for a range of organizations, including private businesses, sports teams, the military, and educational institutions, all of whose performance goals depend on teamwork. The evidence we present in this paper suggests that organizations should create an environment that encourages individuals to take responsibility for their mistakes as a way to reduce interpersonal conflict, strengthen team cohesion, and improve team performance.

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Appendix

Table A1. List of games watched by coders

GAME DATE	CODER	HOME TEAM	AWAY TEAM	WINNER
10/25/16	AP	POR	UTA	POR
10/25/16	MB	GSW	SAS	SAS
10/26/16	UK	BOS	BKN	BOS
10/26/16	AP	TOR	DET	TOR
10/30/16	AP	HOU	DAL	HOU
11/1/16	CH	POR	GSW	GSW
11/1/16	AP	MIN	MEM	MIN
11/3/16	AP	GSW	OKC	GSW
11/6/16	CH	LAL	PHX	LAL
12/9/16	DH	LAL	PHX	PHX
12/16/16	MK	UTA	DAL	UTA
12/18/16	DH	DAL	SAC	DAL
12/20/16	SS	PHI	NOP	NOP
12/29/16	SS	UTA	PHI	UTA
1/8/17	MY	MEM	UTA	MEM
1/10/17	SS	SAS	MIL	MIL
1/19/17	AM	LAC	MIN	MIN
1/23/17	MY	MIA	GSW	MIA
2/1/17	JP	GSW	CHA	GSW
2/2/17	AM	LAC	GSW	GSW
2/6/17	MY	WAS	CLE	CLE
2/8/17	AM	NYK	LAC	LAC
2/15/17	DH	PHX	LAL	PHX
3/8/17	AM	GSW	BOS	BOS
3/9/17	DH	PHX	LAL	LAL
3/13/17	SS	SAC	ORL	SAC
3/20/17	AM	OKC	GSW	GSW
3/27/17	MY	SAS	CLE	SAS
4/2/17	SS	BKN	ATL	BKN
4/7/17	DH	DEN	NOP	DEN
4/8/17	MY	POR	UTA	POR

Table A2. Results of Models 1 – 4 without GSW

	DV = Log odds that event is an apology (rather than a blame)			
	Models with Clustered Standard Errors		Random-effects Models	
	(1)	(2)	(3)	(4)
Intercept	-1.532 *	0.006	-1.454	0.023
	(0.749)	(0.278)	(0.993)	(0.294)
Games Won	0.038 +		0.036	
	(0.019)		(0.024)	
Average Scoring Margin		0.079		0.071
		(0.051)		(0.067)
Observations	73	73	73	73

Note: * $p < 0.05$, + $p < 0.10$