

Beating The Competition...Literally!:

Personal, Situational, and Target Influences on Aggression Against Competitors

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## Abstract

This study was conducted to test the interactions between personal, situational, and target characteristics in the performance of aggressive behaviors. Aggression was operationalized as a batter being hit by a pitcher's thrown ball in Major League Baseball games between 1963 and 1992. Consistent with Tedeschi and Felson's (1994) social interactionist approach to aggression, pitchers were more likely to hit batters in situations that allowed them the opportunity to protect valued social identities. More importantly, three-way interactions revealed that the likelihood of being hit by a pitch in these "high-risk" situations depended on the background of the pitcher and the race of the batter. Consistent with the culture of honor theory (Nisbett & Cohen, 1996), pitchers born in the southern United States were more likely to hit batters in these high-risk situations, but only if the batter was White. Pitchers not born in the South were more likely to target African-Americans in these situations. The discussion centers around the importance of personal (e.g., culture of honor) and target characteristics (e.g., target race) as they interact with situations to produce aggressive behavior.

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Researchers who study aggression in organizations face a daunting task. In its most overt forms, naturally occurring aggressive behavior typically occurs rarely and in isolated situations removed from empirical observation. In its more covert forms, aggressive behavior may be more common, but its subtle nature makes this form of aggression even more difficult to study (Anderson & Bushman, 1997; Baron, 2004). Many clever social psychologists have taken the study of aggression into the laboratory where aggressive behavior may be provoked, but these researchers face additional challenges such as insuring external validity and the ethical issues associated with using humans as the target of aggression. Despite these challenges, we know many of the personal, situational, and target characteristics that promote aggression. These challenges have made it more difficult, however, to study complex person X situation X target interactions.

This study was designed to overcome many of the challenges faced by those who study aggression. Specifically, a context was chosen (i.e., Major League Baseball) in which aggressive acts (i.e., hitting an opposing player with a pitched ball) are well-documented as are the conditions surrounding each aggressive act. An abundance of data is available regarding the situations (e.g., circumstances that might provoke aggressive behavior), the aggressors (e.g., characteristics that might make pitchers more aggressive), and the targets (e.g., characteristics that might make batters more appealing targets). The availability of this data makes it possible to test theories of aggression in a naturalistic field setting. It may also shed light on an aspect of aggression (i.e., against competitors) often neglected by organizational scholars.

## THEORY AND HYPOTHESES

### The Context of Baseball

Before assuming that baseball provides an appropriate context within which to study aggression, it may be useful to consider the advantages and disadvantages of this approach. As far as disadvantages are concerned, Major League Baseball specifically forbids pitchers from hitting batters on purpose. Players may be ejected from games and/or fined by the league if an umpire determines that a pitcher intentionally hits a batter. The possibility that hit-by-pitch (HBP) events only occur accidentally (i.e., without intention) raises a serious threat to the use of such data because researchers who study aggression have generally settled on a definition of aggression that includes intentionality as a prerequisite (Anderson & Bushman, 2002; Baron, 2004). Despite this official prohibition, however, other researchers have used hit-by-pitch (HBP) data and found support for various theories.

Reifman, Larrick, and Fein (1991), for example, found a positive relationship between the temperature and number of batters hit during a game, thus supporting the heat-aggression hypothesis (Anderson, Anderson, Dorr, DeNeve, & Flanagan, 2000). Timmerman (2002) found that African-American batters were more likely to be hit by pitches during the 1950s and 1960s, but racial differences in the hit-by-pitch rate disappeared in the following decades. This finding coincided with changing public racial attitudes (Quillian, 1996). It therefore appears as if some HBP events are indeed intentional, but it is impossible to determine which ones. Accidental HBP events should occur randomly and should only make it more difficult for researchers to find significant relationships between theorized predictors and intentional aggressive behavior. The net effect of the truly accidental HBP events on the observed relationships should only make the hypothesis-testing process more conservative.

Although previous research using HBP data has been fruitful, an additional conservative step is taken in the current study. As the primary purpose of this investigation is to pursue situation X person X target interactions, I begin by testing the generalizability of well-established relationships in this new context. If situation-aggression relationships, for example, are replicated first, it should bolster the case for using these data to study the interactions of interest.

### **Situational Factors**

Situational factors play a prominent role in the history of aggression research. The earliest theories of aggression relied primarily on situational causes such as external frustration (Dollard, Doob, Miller, Mowrer, & Sears, 1939) and provocation (Taylor, 1967). More recent theories also recognize the importance of situational factors while paying more attention to the mediating processes that lead to aggression (Anderson & Bushman, 2002). One of the most ubiquitous causes of aggression is provocation (Geen, 2001). Tedeschi and Felson (1994) interpret this effect through the lens of equity theory (Adams, 1965) as an attempt to restore justice. Retaliation is also one of the most heavily studied causes of aggression in the organizational literature (Neuman, 2004; Skarlicki & Folger, 1997). In the current study, provocation can easily be tested as a precursor to aggression. Specifically, baseball players, and even managers, openly admit that retaliation is an accepted and expected part of the game (Will, 1990). Umpires are often a party to this aggression by allowing one team to retaliate against another before intervening with warnings or ejections. Despite this reported acceptance, the extent to which retaliation actually occurs has not been empirically tested. Thus the first hypothesis to be tested is:

*Hypothesis 1: Pitchers are more likely to hit batters following a teammate being hit.*

A recent advance in theorizing about aggression has recognized the importance of maintaining or protecting one's social identity as a cause of aggression. People often commit aggressive behaviors to assert or protect their identity as tough, competent, and powerful (Tedeschi & Felson, 1994). Sometimes aggression occurs when actors want to *assert* their identities through intimidation (Jones & Pittman, 1982). This proactive method of self-presentation in the context of baseball is exemplified in a quote from Carl Mays: "I don't like the idea of pitchers throwing at batters to hit them. But I don't like the idea of batters digging in, defying the pitcher to throw to the inside corner (Kahn, 2001; p. 209)." Carl Mays is the pitcher who hit batter Ray Chapman with a pitch, who later died from the injury.

In other cases, aggression occurs when actors want to *protect* their identities after failure or humiliation. In a series of laboratory studies, Tedeschi and colleagues (Tedeschi, 1979; Melburg & Tedeschi, 1989) found that individuals were more aggressive following failure and were willing to aggress against people who had outperformed them or against neutral parties. The context of baseball provides similar situations. Baseball lore suggests that pitchers often hit batters with a record of previous success against them (e.g., in the at-bat following a homerun). As with retaliation, however, this phenomenon has not been empirically verified.

*Hypothesis 2: Pitchers are more likely to hit batters in the at-bat after they hit a homerun.*

Similarly, baseball pitchers allegedly are more likely to hit batters who immediately follow players who hit homeruns. This could be interpreted as an attempt to maintain a particular social identity following a failure, but it could also be an example of displaced aggression following a provocation (Marcus-Newhall, Pedersen, Carlson, & Miller, 2000). The available

research suggests that actors are not picky when it comes to protecting their identities after failure or provocation.

*Hypothesis 3: Pitchers are more likely to hit batters who immediately follow a batter who hits a homerun.*

These three hypotheses are offered as an attempt to replicate consistent effects in the aggression literature. Support for these hypotheses will justify additional tests that extend the literature on aggression. On the other hand, if HBP events are truly accidental and random, these hypotheses will not be supported and the context is inappropriate for testing theories of aggression.

### **Situation X Person Interactions**

Even if some HBP events are intentional, it is obvious that some pitchers take advantage of the opportunity to hit a batter whereas others do not. Likewise, in any other situation where aggression becomes more likely, some individuals act aggressively while others do not. Are there personal characteristics of the aggressor (i.e., the pitcher) that increase the likelihood that aggressive behavior will occur? Many studies have indeed demonstrated the presence of personal characteristics that increase the likelihood of aggression. The most common personal predictors include the Type A Behavior Pattern, hostile attributional bias, and narcissism (Baron, 2004). Specific to workplace aggression, Douglas and Martinko (2001) found that trait anger, attitude toward revenge, attribution style, and previous exposure to aggressive cultures were the best predictors of aggression directed towards coworkers or the organization. One purpose of the current study, however, is to test a social interactionist approach to aggression (Tedeschi & Felson, 1994). Specifically, there may be personal characteristics that do not produce main effects on aggression and may, therefore, go undetected unless an appropriate situation elicits

aggressive behavior. Nisbett and Cohen (1996) identified one such personal characteristic as a value system driven by a “culture of honor.”

Nisbett and Cohen (1996) used the culture of honor to explain a variety of empirical findings showing that people from the southern region of the United States were more violent than people from other regions, but *only* in situations where the aggressor’s honor was challenged. According to these authors, the culture of honor can be traced back to the Scotch-Irish herdsmen who originally settled this region. Over time, the belief that aggression is justified in defending one’s honor and possessions was passed down and can still be seen today in crime statistics, gun laws, and undergraduate students (e.g., Cohen, Nisbett, Bowdle, & Schwarz, 1996). In the workplace violence literature, only Dietz, Robinson, Folger, Baron, & Schultz (2003) have explored the culture of honor. They found no correlation between the culture of honor (i.e., employees in southern states) and workplace violence, but they did not examine the situations surrounding the violent acts to fully test the social interactionist nature of the theory.

The situations described earlier appear to provide an ideal environment within which to test the culture of honor theory in a field setting. Specifically, pitchers from the South should exhibit more aggression when their social identity is threatened as it may be in these situations. The culture of honor theory will be tested through these hypotheses<sup>1</sup>:

*Hypothesis 4a: Pitchers born in the South will be more likely to hit batters following a teammate being hit than will pitchers not born in the South.*

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<sup>1</sup> The hypotheses in this study will only be tested with White pitchers (i.e., aggressors). This restriction has been placed for several reasons. In the available data, relatively few pitchers are non-White (5.7% African-American and 10.1% Latino) even though the percentage of non-White non-pitchers is much higher (16.3% African-American and 13.1% Latino). Lapchick (2003) refers to this phenomenon as “stacking” and it may represent the discriminatory practice of placing minorities in positions with less responsibility. In addition, Nisbett and Cohen (1996) used White subjects to test the culture of honor theory. They argue (and show) that the southern culture of honor has not permeated the value systems of non-Whites to produce the same regional differences observed among Whites.

*Hypothesis 4b: Pitchers born in the South will be more likely to hit batters after they hit a homerun than will pitchers not born in the South.*

*Hypothesis 4c: Pitchers born in the South will be more likely to hit batters who immediately follow a batter who hits a homerun than will pitchers not born in the South.*

### **Situation X Target Interactions**

As is the case with aggressor characteristics, there may be characteristics of people that may make them more appealing targets of aggression (Aquino, Grover, Bradfield, & Allen, 1999). Aquino et al., for example, found that targets of workplace aggression were high in negative affectivity and low in self-determination. With a social interactionist approach, however, this question is asked: Are there personal characteristics that make people more appealing targets in certain situations? In the early 1970s, a stream of research by the Donnersteins and their colleagues (Donnerstein, Donnerstein, Simon, & Ditricks, 1972; Donnerstein & Donnerstein, 1973) examined the role of target race in aggression. These studies showed that Whites were no more likely to aggress against African-American targets than White targets when given the opportunity (i.e., no main effects for target race). Examining situational moderators, however, they discovered that Whites were more likely to target African-Americans when they could act anonymously or without fear of retaliation.

Interestingly, Timmerman (2002) found that African-Americans were more likely to be hit by pitches during the 1950s and 1960s (perhaps when open aggression against African-Americans was more acceptable), but during the 1970s and 1980s, there were no racial differences in the likelihood of getting hit by a pitch. An interesting question is whether, during this period, African-Americans were more likely to get hit by pitches *in situations where* aggression was more acceptable. Of particular relevance to the current study is a laboratory

experiment conducted by Rogers and Prentice-Dunn (1981). They also gave White participants the opportunity to aggress against White and African-American targets. Like the Donnersteins, they found no main effect for target race. When the target had insulted the aggressor, however, participants were much more likely to aggress against African-Americans than against Whites. Given the discussion pertaining to protecting social identities above, it is possible that African-Americans are more likely to be targeted in situations where the aggressor is motivated to protect his identity as tough, competent, and powerful. There is no such research that would lead to predictions regarding aggression against Latino batters, so no specific hypotheses are offered.

*Hypothesis 5a : Pitchers are more likely to hit African-American batters than White batters following a teammate being hit.*

*Hypothesis 5b: Pitchers are more likely to hit African-American batters than White batters after they hit a homerun.*

*Hypothesis 5c: Pitchers are more likely to hit African-American batters than White batters who immediately follow a batter who hits a homerun.*

### **Person X Target Interactions**

Given the discussion thus far, it should be obvious that situations play an enormous role in the elicitation of aggression. In the interest of completeness, however, it is worth considering the possibility of person X target interactions in this study. Specifically, across all situations, does the relationship between the culture of honor and aggression depend on the race of the target? There is a great deal of historical evidence documenting greater violence against African-Americans in the South. Similar contemporary evidence, however, is difficult to find. If aggression follows attitudes (Anderson & Bushman, 2002), then there is reason to believe that southerners will be no more likely to aggress against African-Americans. Specifically, Wilson

(1996) found that regional differences in negative stereotypes about African-Americans disappeared in cohorts born after 1960. Without a situational “trigger”, there is no reason to expect a person X target interaction.

### **Situation X Person X Target Interactions**

The social interactionist approach described above makes it clear that interactions between variables may occur in the absence of main effects. Likewise, it is possible that the 2-way interactions described above will not be manifested because of a 3-way interaction between the situation, person, and target characteristics. The 3-way interaction explored in this study could take several forms that have not been tested. If the culture of honor continues to influence southerners’ aggression when their honor is challenged, it seems just as plausible that some form of historical prejudice may linger as well. Even if regional differences in overt racial attitudes have disappeared (Wilson, 1996), is it possible that prejudice still exists in a more covert form of “modern racism” (Dovidio & Gaertner, 2000)? Research in this area has found that, whereas explicit prejudice has declined over time, racism can still be seen when situations are more ambiguous or differential treatment is implicitly accepted (Brief, Dietz, Cohen, Pugh, & Vaslow, 2000).

A similar effect could be observed in the current study. If southerners are not more likely to hit African-Americans across all situations, they may be more likely to hit African-Americans in those situations that 1) invoke the culture of honor and 2) make African-Americans more acceptable targets of aggression. As described earlier, the culture of honor is triggered by threats to one’s honor or social identity (Nisbett & Cohen, 1996). Rogers and Prentice-Dunn (1981) found that Whites were particularly more likely to aggress against African-Americans when they had been insulted. The combination of these factors leads to the following hypotheses:

*Hypothesis 6a : Pitchers from the South are more likely to hit African-American batters following a teammate being hit.*

*Hypothesis 6b: Pitchers from the South are more likely to hit African-American batters after they hit a homerun.*

*Hypothesis 6c: Pitchers from the South are more likely to hit African-American batters who immediately follow a batter who hits a homerun.*

## **METHOD**

### **Data**

Most of the data for this study were obtained from Retrosheet, Inc. ([www.retrosheet.org](http://www.retrosheet.org)). Retrosheet is an organization of volunteers with the goal of creating a database containing play-by-play data for every major league baseball game ever played. At the time of this study, data from every game from 1969 to 1992 were available. Data from every game in the American League were available from 1963, 1965, 1966, 1967, and 1968. The unit of analysis is each plate appearance by a batter within all major league games during this time period. The full database contains 3,994,226 plate appearances. 20,357 of these are hit-by-pitch events. As described in the note above, the analyses in this study are limited to White pitchers because of 1) the small number of minority pitchers in the major leagues and 2) the role of this study in testing the culture of honor theory which is limited to Whites. The final data set used in the present analyses contained 3,318,092 plate appearances and 17,070 HBP events.

### **Variables**

The three situations of interest were operationalized by coding each HBP event according to the game situation. The situation described in Hypothesis 1 (i.e., retaliation) was tested by identifying the plate appearance of every batter who appeared in the half-inning after their own

pitcher hit an opposing batter. This is a conservative approach because retaliation may be pursued later in the game, but immediate retaliation is more likely to be intentional. The situation described in Hypothesis 2 (i.e., hitting a batter who previously hit a homerun) was tested by identifying the next plate appearance during the same game of every batter who hit a homerun. This situation was limited to the next plate appearance (and facing the same pitcher) to also define the situation as one more likely to involve intentionality. The final situation (i.e., Hypothesis 3) was tested by identifying each plate appearance (facing the same pitcher) immediately following a batter's homerun.

Nisbett and Cohen (1996) operationalized the southern culture of honor in several ways. The most common method (and that used by Dietz et al., 2003) is to rely on the Census classification of states. The Census Bureau defines southern states as those in Census divisions 5, 6, and 7. These states include: Florida, Georgia, South Carolina, North Carolina, West Virginia, Virginia, Maryland, Delaware, Texas, Oklahoma, Louisiana, Arkansas, Mississippi, Alabama, Tennessee, and Kentucky. Any White pitcher born in one of these states was identified as southern. All other White pitchers were identified as non-southern. Place-of-birth data were obtained from the Baseball Archive (Lahman, 2004).

The race of each player was determined primarily through visual identification by the author and a graduate student. Pictures of each player were obtained through a variety of sources (e.g., team media guides, team websites, baseball cards). This method is not common in organizational research, but is very common in other areas such as the study of salary discrimination in economics (Bodvarsson & Banaian, 1998). Latinos were identified using the same criteria as the Racial and Gender Report Card (Lapchick, 2003). This biannual report summarizes the racial and gender makeup of each of the major sports. In the Report Card,

Latinos are defined as any person born in Mexico, Central America, South America, or the Spanish-speaking Caribbean. In addition, I used the Spanish Surname List (Word & Perkins, 1996) to identify Latinos born in the United States. This list was constructed by the U.S. Census Bureau and lists 639 “heavily Hispanic” surnames. Respondents to the U.S. Census with one of these names identified themselves as Hispanic 94.2% of the time.

Using this method, 2,581 batters (67.1%) were identified as White, 626 batters (16.3%) were identified as African-American, and 504 batters (13.1%) were identified as Latino. One hundred thirty-eight batters (3.6%) could not be identified. Among the pitchers, 1,725 (79.4%) were identified as White and 104 (4.8%) could not be identified. Among the White pitchers, 26.4% were identified as southerners.

Several control variables were used that might be correlated with HBP events. Because the data cover a wide time span, year was included as a control variable. Timmerman (2002) found that HBP events were correlated with batter ability and league. Better players are more likely to get hit and, since 1973, pitchers have not batted in the American League. Drinen and Bradbury (2004) found that American League pitchers were, therefore, more likely to hit opposing batters. In this study, I controlled for batter ability by including each player’s career OPS (On Base Percentage + Slugging Percentage). I also included a dummy variable to indicate which games used a designated hitter instead of the pitchers batting. To control for pitcher ability, I included each pitcher’s career walk-per-batter-faced ratio. As pitchers with more walks have less control over their pitches, they should also hit more batters accidentally. Finally, I controlled for the score of the game by subtracting the batting team’s score from the pitching team’s score. Large negative numbers would mean that the pitcher’s team is losing and the pitcher might hit batters out of frustration.

## RESULTS

Intercorrelations between all variables are shown in Table 1. Because of the large sample size, most of the correlations are significant. The point-biserial correlations between the HBP variable and all other variables are near zero. The statistically significant correlations indicate that batters were more likely to be hit in older years, when they had higher ability, when the pitcher had lower ability, when the designated hitter (DH) was used in the game, when the pitcher's team was losing, when the previous batter hit a homerun, when the batter had hit a homerun in his previous plate appearance, when the pitcher's teammate was hit in the previous half-inning, and when the batter was African-American. These correlations support Hypotheses 1, 2, and 3.

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Insert Table 1 about here

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Table 2 shows the results of logistic regressions predicting HBP events. After adding the control variables (see Model 1), Hypotheses 1 and 3 continued to receive support. Batters were more likely to be hit if the pitcher's teammate had been previously hit or if a previous batter had hit a homerun. Hypothesis 2 was marginally supported in that batters were slightly more likely to be hit in the plate appearance following their own homerun, but the effect failed to meet conventional levels of significance ( $p = .06$ ). Also noteworthy in Model 1 is the fact that southerners were less likely to hit batters and African-American batters were not more likely to be hit. Models 2, 3, and 4 test all of the 2-way interactions proposed by Hypotheses 4a-c and 5a-c. None of these 2-way interactions were significant.

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Insert Table 2 about here

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Model 5 shows why none of the 2-way interactions were significant. Two of the 3-way interactions are significant. Specifically, the likelihood of being hit by a pitch after hitting a homerun depends on the background of the pitcher and the race of the batter. Also, the likelihood of being hit by a pitch after a teammate hits a homerun also depends on the background of the pitcher and the race of the batter. These interactions are depicted graphically in Figures 1 and 2. Figure 1 shows that southerners were much more likely to hit a player in the plate appearance following a homerun, but only if the batter was White. In fact, estimated marginal means show that White batters were 55% more likely to be hit by a southerner if the previous batter hit a homerun. African-American batters, on the other hand, were approximately 4% less likely to be hit and Latino batters were 5% less likely to be hit in the same situation. When the pitcher was not born in the South, White and Latino batters were 13% and 14% more likely to be hit, respectively, if the previous batter hit a homerun. African-American batters on the other hand, were 30% more likely to be hit in this situation by pitchers not born in the South.

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Insert Figure 1 about here

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Figure 2 shows a similar pattern when the batter hit a homerun in his previous plate appearance. Specifically, White batters were 50% more likely to be hit by a southerner after they hit a homerun. African-American batters were 10% more likely to be hit and Latino batters were 5% less likely to be hit by southerners in this situation. When the pitcher was not born in the South, White and Latino batters were less likely to be hit (5% and 29%, respectively) after they

hit a homerun. African-American batters, on the other hand, were 40% more likely to be hit in this situation by pitchers not born in the South.

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Insert Figure 2 about here

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Although not statistically significant ( $p = .168$ ), the same 3-way interaction involving retaliation on behalf of a teammate shows a similar pattern (see Figure 3). Again, southerners are apparently willing to retaliate against White batters (55% increase in risk), but less so against African-Americans (12% increase in risk) and Latinos (4% increase in risk). Pitchers not born in the South are willing to retaliate against batters of any race, but particularly against African-Americans (42% increase in risk). White batters facing non-southern pitchers face a 37% increase in risk, whereas Latinos face a 25% increase.

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Insert Figure 3 about here

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## **DISCUSSION**

Summarizing the results, professional baseball pitchers are more likely to hit batters in situations consistent with traditional social and organizational research (i.e., following failure and provocation). Furthermore, the likelihood of being hit by a pitch in these situations depends on the race of the batter and the birthplace of the pitcher. These results provoke many ideas and implications for future research and managerial practice.

Perhaps more than anything else, these results attest to the importance of studying higher-order interactions in the study of aggression. Examining only main effects, the results would

suggest that situations are the primary drivers of aggressive behavior. A conscientious researcher might then decide to pursue theoretically-driven 2-way interactions. In this study, none of the person X situation, person X target, or situation X target interactions were significant. At this point, the disappointed researcher may decide, again, that situations were the primary causes of aggression, and that person and target characteristics were relatively unimportant. Only by pursuing the person X target x situation interactions do we find the complexity underlying aggression.

The nature of the 3-way interaction was particularly surprising in this study. In all three situations, there is evidence that White pitchers born in the South are more likely to aggress against available targets in situations in which their honor (or social identity) might be threatened. Surprisingly, this tendency only occurred when the target was White. Indeed, in all three situations the estimated HBP rate for southerners hitting Whites was higher than any HBP rate for non-southern pitchers. For pitchers not born in the South, the tendency to aggress in these situations was especially pronounced when the target was African-American. These findings are inconsistent with the initial hypotheses, but their consistency across situations is worth pursuing further.

One explanation for the 3-way interaction is that southern Whites might be more likely to suppress any behavior that might be perceived as racist. Professional baseball games are accompanied by large audiences in physical attendance as well as even larger audiences through radio and television. These situations may motivate White pitchers to make an extra effort to not appear racist. Dunton and Fazio (1997) have validated a measure of motivation to control prejudiced reactions. Perhaps the history of southern prejudice combined with the public nature of the game makes pitchers from the South higher in this motivation.

Another possible explanation for this effect can be found the research of the Donnersteins (Donnerstein & Donnerstein, 1973; Donnerstein et al., 1972). These studies found that expressions of prejudice were suppressed out of fear of African-Americans. In baseball, there is always the possibility that the hit batsman will “charge the mound” to fight the pitcher. It is possible that prejudiced behaviors of southern pitchers are suppressed out of fear that minorities will retaliate against them through escalating physical violence.

Most disturbing is the finding that non-southern pitchers are particularly likely to target African-Americans in these high-risk situations. This finding seems consistent with the discovery by Rogers and Prentice-Dunn (1981) that Whites were especially likely to aggress against African-Americans after the African-Americans had insulted them. Apparently this finding has not been pursued or replicated recently. Perhaps more research is needed on people’s reactions to social identity threat by those of other races. Interestingly, Latinos do not provoke the same levels of aggression as African-Americans, so this difference may also be worth pursuing.

Aside from these interesting implications for the social psychology of aggression, there are also potential implications for the management of aggression in the workplace. The culture of honor has tremendous implications for workplace violence. Researchers in this area have identified perceived injustice as a primary cause of aggression (Neuman, 2004). Because perceived injustice is often associated with a threat to one’s social identity or an attack on one’s honor, the association between perceived injustice and workplace violence should be even stronger in the South. Managers from the South may have some appreciation for this culture, but managers transferred to the South may lack this knowledge. Similarly, employees who move from the South to other parts of the country may also operate according to the culture of honor

and be especially sensitive to injustice or social identity threats. Thus diversity management efforts should certainly incorporate the implications of the culture of honor.

Finally, this study was unique in that it addressed aggression against competitors. Most research on workplace aggression is concerned with aggression against other employees or the organization as a whole (Baron, 2004). Although it is rare for employees to have the opportunity to aggress against competitors (sabotage resulting in physical injury may be an example), competitive relationships are worthy of study for several reasons. Most practically, aggression against competitors may have direct and indirect costs to the organization. This point becomes clear when considering the case of professional baseball. When a pitcher hits a batter, the batter is awarded first base and is more likely to score a run than if he were not hit. Therefore, every attempt by a pitcher to assert or protect their identity represents a cost to the team. In other organizational settings, aggression against competitors may have similar costs such as the lost productivity of an employee who is arrested for aggressing against a competitor. It is also possible that aggression within organizations is sparked by *perceived* competition over scarce resources.

These results provide an indication of the insights that might be gained by using the enormous amount of publicly available data in the world of professional sports. Within the field of aggression, a number of other questions remain that might be answered with these data. Most obviously, has the role of target race changed over time? As more data become available from the 1960s and earlier, it might be possible to trace the changing nature of target race and pitcher background in reactions to these situations. As more recent data become available, it will be possible to test these same relationships among pitchers of other races. A serious limitation within the aggression literature reviewed throughout this paper is the exclusion of non-Whites as

aggressors. As vividly demonstrated in this study, a complete understanding of aggression will not be possible until researchers consider the complex interactions between aggressors, their targets, and the situations within which aggression occurs.

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TABLE 1  
Intercorrelations Between Study Variables.

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11
1 Batter Was Hit By Pitch (1)	0.005	0.072											
2 Year	1979.56	7.739	-0.002										
3 Batter's Career OPS	0.706	0.110	0.011	0.142									
4 Pitcher's Career Walk Rate	0.085	0.019	0.008	-0.025	-0.006								
5 Designated Hitter Used	0.417	0.493	0.003	0.358	0.162	-0.030							
6 Score Difference	0.045	2.923	-0.010	0.003	0.035	-0.106	0.002						
7 Previous Batter Hit Homerun	0.019	0.136	0.003	0.002	0.019	-0.004	0.007	-0.069					
8 Batter Hit Homerun in Last PA	0.016	0.124	0.002	0.002	0.058	0.011	0.008	-0.056	0.003				
9 Pitcher's Teammate Was Hit	0.020	0.140	0.003	-0.002	0.000*	0.003	0.007	0.049	0.000*	0.001*			
10 Pitcher Born in South (1)	0.257	0.437	-0.001*	0.026	0.003	0.017	0.013	-0.005	0.000*	0.001	0.000*		
11 Black Batter (1)	0.293	0.455	0.002	0.060	0.228	-0.006	0.039	0.009	-0.003	0.013	-0.003	0.000*	
12 Latino Batter (1)	0.142	0.349	-0.001	0.032	-0.063	0.000*	-0.031	0.002	-0.004	-0.012	0.001*	0.000*	-0.262

Note: n ranges from 3,332,098 to 3,400,969. Because of the large sample size, all correlations are significant ( $p < .01$ ) *except* for those marked with \*.

TABLE 2  
Results Of Logistic Regressions Predicting A Player Being Hit By A Pitch

	Model 1 B(SE)	Model 2 B(SE)	Model 3 B(SE)	Model 4 B(SE)	Model 5 B(SE)
Year	-0.008 (0.001)***	-0.008 (0.001)***	-0.008 (0.001)***	-0.008 (0.001)***	-0.008 (0.001)***
Batter's Career OPS	1.621 (0.079)***	1.621 (0.079)***	1.623 (0.079)***	1.621 (0.079)***	1.623 (0.079)***
Pitcher's Career Walk Rate	4.637 (0.373)***	4.639 (0.373)***	4.638 (0.373)***	4.636 (0.373)***	4.638 (0.373)***
Designated Hitter Used	0.086 (0.017)***	0.086 (0.017)***	0.086 (0.017)***	0.086 (0.017)***	0.086 (0.017)***
Score Difference	-0.044 (0.003)***	-0.044 (0.003)***	-0.044 (0.003)***	-0.044 (0.003)***	-0.044 (0.003)***
1 Previous Batter Hit Homerun	0.177 (0.050)***	0.149 (0.058)**	0.199 (0.065)**	0.177 (0.050)***	0.114 (0.078)
2 Batter Hit Homerun in Last PA	0.104 (0.055)	0.058 (0.065)	0.070 (0.076)	0.104 (0.055)	-0.052 (0.093)
3 Pitcher's Teammate Was Hit	0.321 (0.048)***	0.323 (0.055)***	0.366 (0.063)***	0.321 (0.048)***	0.332 (0.073)***
4 Pitcher Born in South (1)	-0.050 (0.018)**	-0.056 (0.018)**	-0.050 (0.018)**	-0.030 (0.024)	-0.051 (0.025)*
5 Black Batter (1)	-0.018 (0.018)	-0.018 (0.018)	-0.019 (0.018)	-0.003 (0.020)	-0.013 (0.021)
6 Latino Batter (1)	-0.006 (0.023)	-0.006 (0.023)	0.004 (0.024)	-0.003 (0.027)	0.001 (0.028)
Situation (1) X Person (4)		0.105 (0.112)			0.304 (0.140)*
Situation (3) X Person (4)		-0.008 (0.111)			0.128 (0.140)
Situation (2) X Person (4)		0.170 (0.122)			0.411 (0.160)**
Situation (1) X Target (5)			-0.033 (0.113)		0.110 (0.129)
Situation (1) X Target (6)			-0.104 (0.158)		0.012 (0.182)
Situation (3) X Target (5)			-0.075 (0.109)		0.011 (0.125)
Situation (3) X Target (6)			-0.177 (0.150)		-0.094 (0.171)
Situation (2) X Target (5)			0.158 (0.116)		0.326 (0.136)*
Situation (2) X Target (6)			-0.257 (0.208)		-0.190 (0.249)
Person (4) X Target (5)				-0.060 (0.040)	-0.023 (0.042)
Person (4) X Target (6)				-0.012 (0.053)	0.014 (0.055)
Situation (1) X Person (4) X Target (5)					-0.569 (0.270)*
Situation (1) X Person (4) X Target (6)					-0.434 (0.368)
Situation (3) X Person (4) X Target (5)					-0.363 (0.263)
Situation (3) X Person (4) X Target (6)					-0.336 (0.359)
Situation (2) X Person (4) X Target (5)					-0.614 (0.269)*
Situation (2) X Person (4) X Target (6)					-0.214 (0.454)
Constant	9.501 (2.131)***	9.509 (2.132)***	9.475 (2.131)***	9.495 (2.131)***	9.486 (2.131)***

Note. \* p < .05 \*\* p < .01 \*\*\* p < .001

FIGURE 1

Probability Of Being Hit As A Function Of Batter Race And Birthplace Of Pitcher Following A Batter Who Hits A Homerun.

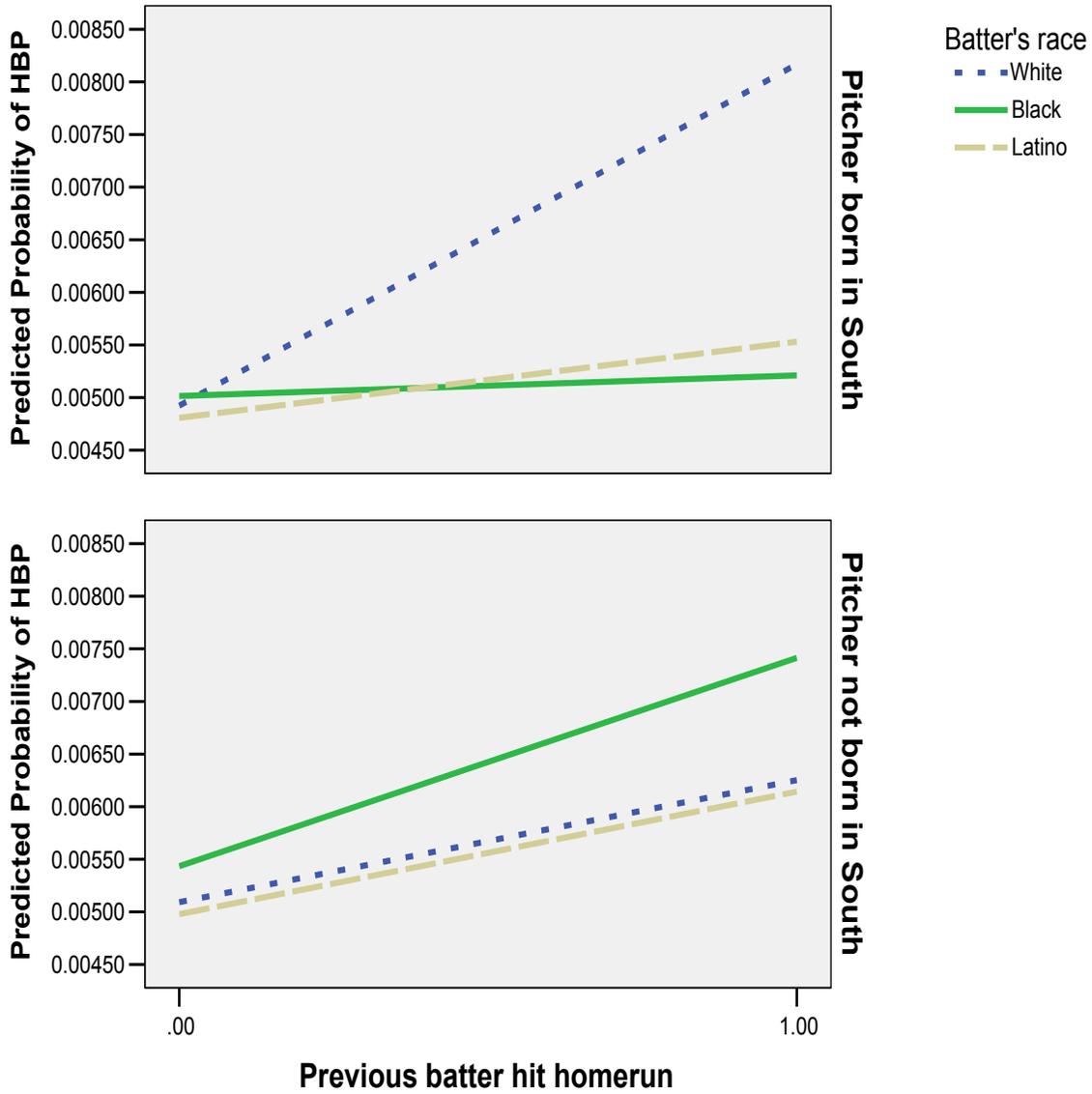


FIGURE 2

Probability Of Being Hit As A Function Of Batter Race And Birthplace Of Pitcher When The Batter Hit A Homerun In His Previous Plate Appearance.

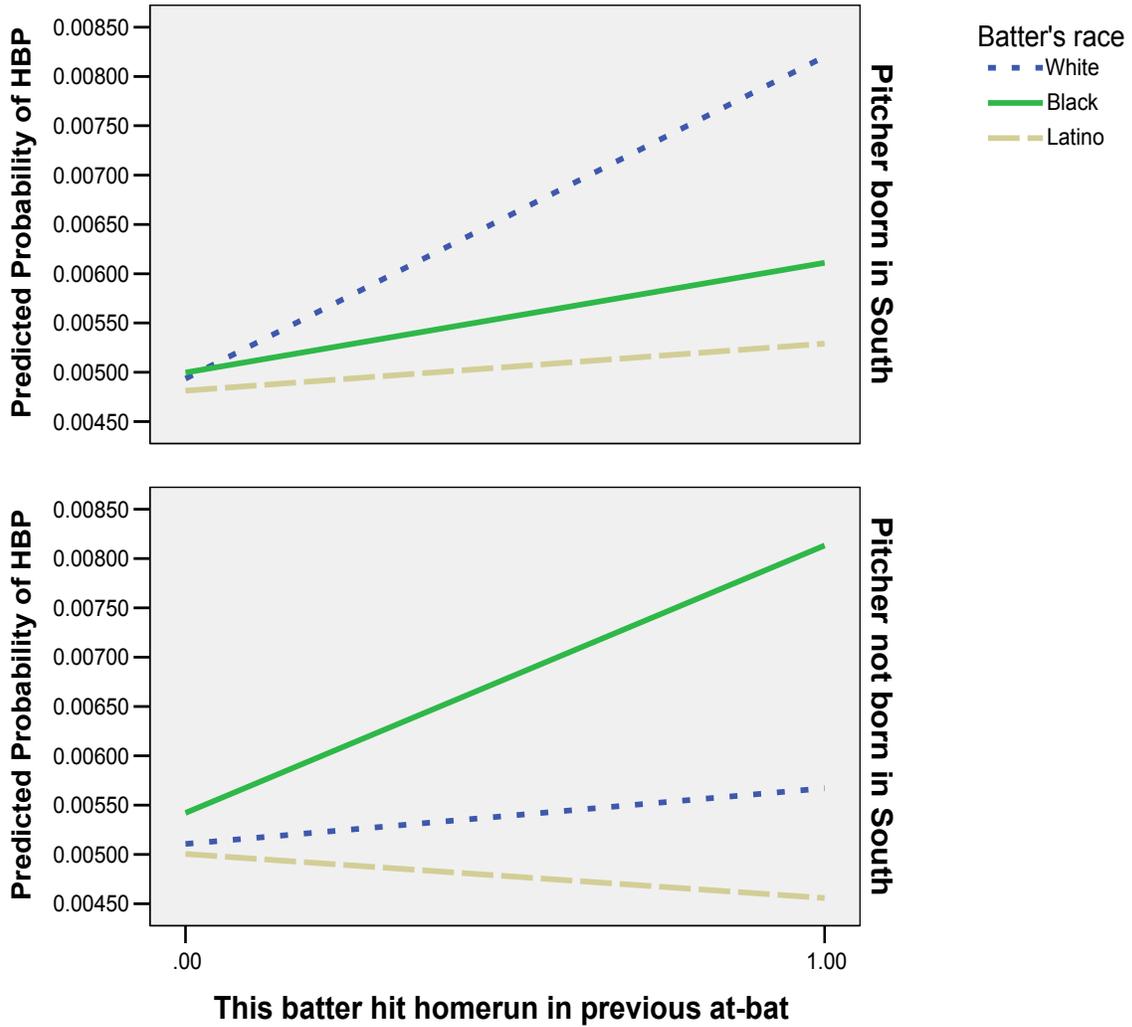


FIGURE 3

Probability Of Being Hit As A Function Of Batter Race And Birthplace Of Pitcher When The Pitcher's Teammate Was Hit In The Previous Half-Inning.

