

**BASEBOL, JOGO DE POLEGADAS: COM-
PORTAMENTOS SUPERSTICIOSOS E A
HIPÓTESE DA INCERTEZA ENTRE AT-
LETAS UNIVERSITÁRIOS AMERICANOS**

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PORTAMIENTO SUPERSTICIOSO Y LA
HIPÓTESIS DE INCERTIDUMBRE ENTRE
LOS ATLETAS UNIVERSITÁRIOS
AMERICANOS**

**BASEBALL, GAME OF INCHES:
SUPERSTITIOUS BEHAVIOUR
AND THE UNCERTAINTY HY-
POTHESIS AMONG AMERICAN
COLLEGE ATHLETES**

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Resumo

Poucos estudos examinaram de forma empírica a proposição comum de que o baseball, comumente referido como o jogo das polegadas, promove mais comportamentos supersticiosos e rituais entre os seus jogadores do que em outros desportos. Este estudo analisou o uso de comportamento supersticioso em 334 atletas universitários da Divisão I dos Estados Unidos. Especificamente, comparámos jogadores de baseball universitários com atletas de outras equipas na mesma instituição e verificámos que os jogadores de baseball universitários da Divisão I exercem mais comportamentos supersticiosos do que os atletas de outros desportos. Além disso, os jogadores universitários de baseball são significativamente mais propensos a envolverem-se em comportamentos supersticiosos para afetar o seu desempenho individual, para afetar o que acontece com a sua equipa, e para fazer algo de bom acontecer em comparação com outros atletas de outros desportos. Os resultados suportam a hipótese de incerteza entre os atletas universitários de forma ampla e especificamente entre jogadores de baseball. Como tal, este estudo sugere que a perceção do nível de incerteza num contexto desportivo pode ser um poderoso preditor da frequência e da intensidade da superstição entre os atletas universitários.

Palavras-chave: Atletas universitários; Baseball; Comportamento supersticioso; Hipótese de incerteza.

Resumen

Pocos estudios examinaron de forma empírica la propuesta común de que el béisbol, comúnmente referido como el juego de las pulgadas, promueve más comportamientos supersticiosos y rituales entre sus jugadores que cualquier otro deporte. Este estudio analizó dicho comportamiento supersticioso en 334 atletas universitarios de la primera división de los Estados Unidos. Específicamente, se compararon jugadores de béisbol universitario con atletas de equipos pertenecientes a la misma institución, verificándose que los jugadores universitarios tienen un comportamiento más supersticioso que atletas de otros deportes. Además, los jugadores universitarios de béisbol fueron significativamente más propensos a generar comportamientos supersticiosos para aumentar su rendimiento individual, influenciar al devenir del equipo, o para intentar llamar a la suerte; al menos comparativamente con otros atletas de diferentes deportes. Los resultados corroboran la hipótesis de incertidumbre entre los atletas universitarios de forma general, y específicamente entre los jugadores de béisbol. Como tal, este estudio sugiere que la percepción del nivel de incertidumbre en un contexto deportivo puede ser un poderoso indicador de la frecuencia y de la intensidad de la superstición entre los atletas universitarios.

Palabras clave: Atletas universitarios; Béisbol; Comportamiento supersticioso; Hipótesis de incertidumbre.

Abstract

Few studies have empirically examined the commonly held proposition that baseball, commonly referred to as the game of inches, promotes more superstitious behaviours and rituals among its players than occur in other sports. This study examined the use of superstitious behaviour among 334 Division I college athletes in the United States. Specifically, we compared college baseball players with varsity athletes from other teams at the same institution and

found that Division I college baseball players exercise more superstitious behaviour than varsity athletes from other sports. Additionally, college baseball players were significantly more likely to engage in superstitious behaviour to affect their individual performance, to affect what happens to their team, and to make something good happen compared to other varsity athletes. Findings provide support for the uncertainty hypothesis among college athletes broadly and baseball players specifically. As such, this study suggests that the perceived level of uncertainty in a sports context may be a powerful predictor of the frequency and intensity of superstitious use among college athletes.

Keywords: Baseball; College athletes; Uncertainty hypothesis; Superstitious behaviour.

Introduction

Superstitious beliefs and behaviours have existed for thousands of years and within numerous cultures and communities. Scholars have sought to understand the function and meaning of these widespread beliefs and behaviours, suggesting that superstitious behaviours or rituals primarily function to alleviate uncertainty and its associated anxieties (Frazer, 1922; Malinowski, 1948; Vyse, 2013). From this perspective, Womack (1992, p. 192) defines superstitious rituals as “unusual, repetitive, rigid behaviour that is perceived to have a positive effect by the actor, whereas in reality there is no causal link between the behaviour and the outcome of an event”. To the extent that these rituals have no actual bearing on the success of an event, they can be characterized as helping to maintain an illusion of control (Brevers, Dan, Noel, & Nils, 2011; Rudski & Edwards, 2007). This psychological placebo (Neil, 1982) may take place even when individuals doubt the efficacy of their superstitious behaviours or rituals. Schippers and Van Lange (2006) suggest that while no apparent causality exists between the use of superstition and outcome, superstitious behaviour functions as a tension-regulating mechanism, which may in turn increase the chances of a positive outcome.

Scholars have cautioned against assuming that observance implies belief in the efficacy of superstitious behaviours (Mullen, 1969; Palmer, 1989). As Palmer (1989, p. 61) argues, “identifying the belief of subjects is necessary to testing the anxiety explanation because it is the belief in the efficacy of the taboo that allegedly relieves the anxiety”. This has led others to distinguish between causal and coincidental superstitious behaviours, where the former is explicitly associated with a conscious belief and the latter represents behaviour induced by the accidental sequence of response and reinforcement (Jahoda, 1969).

In the acquisition of superstitions, Skinner (1948; 1953) referred to adventitious events to describe reinforcement that occurred by chance rather than as a causal relationship. As such, adventitious or chance events help account for the acquisition of some superstitious behaviour since reinforcement of the behaviour is temporally understood. Just because reinforcement coincides temporally with a response does not mean that it is contingent upon the response. For example, when a favourable outcome coincides with a particular set of behaviours, it may serve as coincidental reinforcement. Such reinforcement leads to a belief in the construction of a causal relationship between the two. If coincidental connections are made between behaviour and favourable outcomes, these practices may be maintained even when these behaviours do not create the desired reinforcement (Todd & Brown, 2003).

Based upon this understanding of superstitions, and framed within a larger anxiety-ritual theory, the *uncertainty hypothesis* posits that the more individuals attribute outcomes to chance or luck, the more likely they are to use superstitious behaviour (Kluckholm, 1965; Radcliffe-Brown, 1965). Examples in support of the uncertainty hypothesis include findings of increased superstitions among citizens during uncertain times, such as war or economic downturns (Maller & Lundeen, 1934; Padgett & Jorgenson, 1982; Stouffer, 1965), and among people engaged in activities deemed unpredictable or dangerous (Malinowski, 1954; Poggie & Pollnac, 1988).

Scholars have found that superstitious behaviours are particularly prevalent among certain occupations and social groups, such as actors (Gross, 1961; Hand, 1974), gamblers (Griffiths & Bingham, 2005; Joukhador, Blaszczyński, & Maccallum, 2004), sailors and fishermen (Hole, 1967; Mullen, 1969, 1978; Shay, 1951; Walton, 1955), college students (Conkin, 1919; Lewis & Gallagher, 2001) and athletes (Burger & Lynn, 2005; Womack, 1979). Each of these groups engages in activities with heightened levels of chance and uncertain outcomes.

Sport, Superstitious Behaviour and the Uncertainty Hypothesis

One of the central criteria of sports is the uncertainty of outcome (Guttman, 1978; Loy, 1983). As such, it is perhaps no surprise that athletes are a superstitious social group. The more parity that exists between two opposing sides, the greater the level of uncertainty in the outcome. While the greater uncertainty created in a sports competition between contestants of equal skill often translates into a greater potential for fan excitement, increasing the entertainment value and corresponding revenue, the greater uncertainty of outcome likewise creates an increased potential for athletes' psychological tension or anxiety.

Because of the inherent uncertainty within sport, many athletes practice some form of superstitious behaviour to provide themselves with a sense of control within these competitive contexts (Becker, 1975; Brevers et al., 2011; Schippers & Van Lang, 2006). Though this control may be illusory, the prevalence of superstitious behaviours among athletes in various sports settings has been well documented (Bleak & Frederick, 1998; Fischer, 1997; Gregory, 1973; Neil, Anderson, & Sheppard, 1981; Todd & Brown, 2003).

Past research has identified several factors related to the use of superstitious rituals and behaviours in sport, including type of sport (Ciborowski, 1997; Lee, 1964; Neil, 1982; Van Raalte, Brewer, Nemeroff, & Linder, 1991), type of superstition (Coffin, 1971; Gmelch, 2003; Gregory & Petrie, 1975), age and number of years of participation on a team (Buhrmann & Zaugg, 1981; Neil et al., 1981), difficulty of task and level of competition (Rudski & Edwards, 2007; Todd & Brown, 2003; Wright & Erdal, 2008), participants' perceived loci of control (Matute, 1994; Schippers & Van Lange, 2006), participants' sense of pessimism (Rudski, 2004), and participants' athletic identity, ego-involvement, and personality type (Brevers et al., 2011; Neil et al., 1981). The present study focuses on type of sport and perceived level of uncertainty, with particular focus on college baseball.

Baseball and Superstitious Behaviours

While scholars have identified sport, in general, as a breeding ground for superstitious behaviour, American laypeople and the media often claim that the game of baseball fosters more superstitious behaviour among its participants than is witnessed in other games and sports (McCallum, 1988; Webster, 2012). Superstitious behaviours have been reported as part of the culture of the national pastime throughout the sport's history in the United States and at all levels of competition, from Little League to the professional ranks (Fine, 1979; Gmelch, 2003). At the collegiate level, Gregory and Petrie (1975) noted that athletes listed twice as many superstitions associated with sport than non-athletes, but they did not include collegiate baseball players in their study. Ciborowski (1997) found that the superstitious behaviours of college baseball players were unremarkable despite evidence that these players engaged in higher levels of superstitious activity and labelled themselves more superstitious in practice and intensity than non-athletes.

In support of the uncertainty hypothesis, some scholars (Burger & Lynn, 2005; Felson & Gmelch, 1979; Neil, 1982) have suggested that superstitious behaviour in baseball is particularly prevalent because chance and luck play such a pivotal role in determining baseball outcomes. Examples of chance dictating outcome in baseball are easy to find at both the individual and team level. Many plays are so close that the outcome is highly unpredictable or out of the hands of the players themselves. A pitcher makes an excellent pitch on the corner of the plate, but the umpire's decision to call it a ball or strike could arguably impact that particular

at-bat, the inning and/or even the outcome of the game. A batter hits the ball as hard as he can, only to have the line drive directed towards a well-placed fielder for an easy out. This is perhaps the reason why the best pitchers win only 60-70% of their games. Conversely, the best hitters fail to get a hit nearly 70% of the time, leading some to call hitting in baseball the single most difficult task in all sports (Gmelch, 2003).

Critics might argue that all sports involve elements of chance, and of course this is accurate; however, no other sport has been consistently referred to as the game of inches, reflecting something unique about baseball as a popular culture practice. Despite the common claim that baseball involves more luck or chance than other sports, few studies have empirically tested the ways in which baseball players behave within this particular sports context. The current study seeks to fill this void in the literature. Specifically, this study compares college baseball players with college athletes from other sports, examining whether player's perceptions of uncertainty within their sport provide a possible explanation for differences in the frequency of superstitious behaviour. As such, we tested the following three hypotheses:

H1: College baseball players are more superstitious than other college athletes based upon the frequency of use of such behaviours;

H2: College baseball players believe superstitious behaviours have a greater impact on individual and team outcomes than other college athletes;

H3: In support of the uncertainty hypothesis, college baseball players report a stronger relationship between perceived levels of luck or chance and the use of superstitious behaviours than other varsity athletes.

Methods

Participants

Three hundred and thirty four varsity college athletes ($n=334$) from a large Division I public university on the west coast of the United States participated in the study. Among this sample population, 37 varsity baseball players (11% of the total participant pool) were selected as a subgroup to compare with the 297 other varsity athletes at this institution (89% of the total participant pool). The university competes in the Pacific-12 athletic conference and consistently ranks among the top intercollegiate athletic programs in the United States, based upon the NACDA Learfield Sports Directors' Cup national rankings. The university offers a broad-based intercollegiate athletic program, comprised of 30 varsity sports and over 800 active college athletes. Baseball is one of the oldest of the varsity sports at this Division I institution, established in 1892.

Instruments and Procedures

Through the principal investigator's institutional position, all active varsity athletes at the institution were invited to participate in this study via email. The email included a link to an online survey hosted by a third-party website. To encourage participation, the survey was brief and able to be completed within 10-15 minutes. Participation was voluntary and confidential. Participants were not compensated. In order to address potential limitations in distinguishing between superstitious behaviour and ritual, we borrowed from Burger and Lynn (2005, p. 73) and defined superstitious behaviour within the survey instrument. Prior to an-

swering survey questions, participants read the following: “superstitious behaviour is anything that you do that you feel might bring good luck during a game... some common examples of superstitions are wearing lucky clothes, sitting in lucky spots, not mentioning certain things, eating certain foods, and entering the field/pool/court a certain way.”

We asked all participants a series of four questions, adapted from Burger and Lynn (2005), about the frequency and perceived impact of performing such superstitious behaviour. First, they were asked, “How often do you engage in superstitious behaviour?” and chose an answer from a 5-point Likert-type response scale (1 = *never*, 2 = *only occasionally*, 3 = *a lot of games*, 4 = *most games*, and 5 = *every game*). Second, survey respondents were asked, “How much impact do you feel superstitious behaviour has on your performance or the outcome of the game?” Here, too, they selected an answer from a 5-point Likert-type response scale (1 = *no impact*, 2 = *hardly ever*, 3 = *sometimes*, 4 = *often*, and 5 = *always*). Third, participants responded to the following prompt: “I engage in superstitious behaviour(s) to (check all that apply): a = *make something good happen*, b = *keep something bad from happening*, c = *affect my athletic performance*, d = *affect what happens to the team*, and/or e = *help prevent injuries*. Fourth, and finally, survey respondents were asked, “How much of the time does luck affect what happens in a game or competition?” As earlier in the survey, they chose one response from among five possible answers: 1 = *none of the time*, 2 = *very little of the time*, 3 = *some of the time*, 4 = *a lot of the time*, and 5 = *most of the time*.

In order to test the first two hypotheses statistically, two-sample *t*-tests of equal variances were performed to evaluate the mean scores between baseball student athletes and all other varsity athletes. Regarding the uncertainty hypothesis, two-sample *t*-tests of equal variances were also performed. This allowed us to compare the proportion of affirmative answers yielded by baseball players relative to all other college athletes. In addition, Fisher *r*-to-*z* transformations were performed to allow us to compare the correlations of two variables between these two populations.

Four ordinal logistic regression analyses were also conducted in order to address the uncertainty hypothesis. The rationale for these additional statistical tests was to analyze the strength of the effect that different independent variables have on the dependent variable. The first two models used responses to the question “How much of the time does luck affect what happens in a game or competition?” as the outcome or dependent variable. Responses were represented by a Likert-type scale from one to five, with one being the lowest. The independent variable was the responses to the question: “How often do you engage in superstitious behaviour?” Responses were also represented by a Likert-type scale from one to five, with one being the lowest. The first model was restricted to the baseball student athlete population while the second model was restricted to all other college athletes. The second set of models had the same outcome (dependent) variable but used responses to the following question as the independent variable: “How much impact do you feel superstitious behaviour has on your performance?” Responses were also represented by a Likert-type scale from one to five, with one being the lowest. Given limitations with sample size, the correlation results and ordinal logistic regression results are both included to provide complementary evidence toward analyzing the uncertainty hypothesis.

Results

As illustrated in Table 1, college baseball players engage in sport-specific superstitious behaviour significantly more often than other college athletes ($t=-2.98$, $p<0.01$). This con-

firming our first hypothesis. Baseball players are also more likely to believe that such behaviours impact their performance or outcome of a game, though this difference was not statistically significant.

Table 1. Number, frequency, and perceived impact of superstitious behaviour(s) among superstitious varsity college athletes.

	College baseball players	College varsity athletes, excluding baseball players	Two-sample <i>t</i> -test with equal variances
Mean score for frequency of engaging in superstitious behaviour	3.72 (<i>n</i> =36, <i>sd</i> =1.65)	2.86 (<i>n</i> =266; <i>sd</i> =1.63)	$t=-2.98, p<0.01$
Mean score for the perceived impact of superstitious behaviour on individual performance or team outcome	2.56 (<i>n</i> =36; <i>sd</i> =1.25)	2.17 (<i>n</i> =264; <i>sd</i> =1.18)	$t=-1.84, p=0.07$

Although the practice of superstitious behaviour is common among college baseball players, they are not as confident in the power of their superstitions as their behaviour might suggest. The mean score on the item regarding perceived impact of superstitious behaviour on individual performance or the outcome of the game, for example, was 2.56 (*sd*=1.25), which places the average response between *hardly ever* and *sometimes*. Other college athletes were even less confident in the impact of superstitious behaviour ($x=2.17, sd=1.18$). Nearly one quarter or twenty-two percent of college baseball players said superstitious behaviour always or often had an impact.

As illustrated in Table 2, however, American college baseball players were significantly more likely to engage in superstitious behaviour to make something good happen ($t=-2.33, p<0.05$), affect athletic performance ($t=-2.69, p<0.01$), and affect what happens to the team ($t=-4.20, p<0.00$) compared to other varsity athletes.

Table 2. Number and percentage of superstitious varsity college athletes agreeing with perceived impact of superstitious behaviour.

“I engage in superstitious behaviour(s) to (check all that apply)...”	College baseball players <i>n</i> = 37	College varsity athletes <i>n</i> = 297	Two-sample <i>t</i> -test of proportions results
<i>Make something good happen</i>	<i>n</i> =21 (57%)	<i>n</i> =110 (37%)	$t=-2.33, p<0.05$
<i>Keep something bad from happening</i>	<i>n</i> =12 (32%)	<i>n</i> =73 (25%)	$t=-1.03, p=0.30$
<i>Affect my athletic performance</i>	<i>n</i> =19 (51%)	<i>n</i> =88 (30%)	$t=-2.69, p<0.01$
<i>Affect what happens to the team</i>	<i>n</i> =15 (41%)	<i>n</i> =41 (14%)	$t=-4.20, p<0.00$
<i>Help prevent injuries</i>	<i>n</i> =6 (16%)	<i>n</i> =39 (13%)	$t=-0.52, p=0.61$

Findings for our second hypothesis are mixed based upon college baseball players' responses. While college baseball players engage in superstitious behaviour to affect individual performance and team outcomes significantly more often than other varsity athletes, baseball players do not believe these behaviours have a significant impact, nor are their responses in this regard significantly different than other college athletes. While college baseball players may be skeptical as to whether or not their superstitious behaviours make an impact on the outcome of a game, they are significantly more likely to engage in superstitious behaviours to impact outcomes, as compared with other college athletes. This suggests that college baseball players hope that their superstitious behaviours impact outcomes more than other college athletes.

Our third and final hypothesis addressed the uncertainty hypothesis. We anticipated a positive correlation between college athletes' strength of belief that chance or luck affects the outcome of a game or competition and their perceived impact of superstitious behaviours on

their performance or outcome of competition. As shown in Table 3, the correlations were higher among college baseball players than for college athletes from other teams. However, using the Fisher *r*-to-*z* transformation, we found that the difference in correlations between baseball and non-baseball college athletes was not statistically significant.

Table 3. Correlations with perceived impact of luck on outcomes for superstitious varsity college athletes.

	College baseball players	College varsity athletes	Fisher <i>r</i> -to- <i>z</i> transformation results, one-tail <i>p</i>
Frequency of engaging in sport-specific superstitions before or during competition	$r=0.35, p<0.05$ (<i>n</i> =36)	$r=0.26, p<0.01$ (<i>n</i> =263)	$z=0.58, p=0.29$
Perceived impact of sport-specific superstitious behaviour on individual performance of team outcome	$r=0.42, p<0.05$ (<i>n</i> =36)	$r=0.32, p<0.01$ (<i>n</i> =261)	$z=0.63, p=0.26$

Regarding the four ordinal logistic regression analyses conducted in order to test the uncertainty hypothesis, all odds ratios were significant. The results of the ordinal logistic regression show that the more college athletes feel luck is associated with the outcome of a game or competition, the more likely they engage in superstitious behaviours; for all models, coefficients were higher among college baseball players as compared with other college athletes. The first model was restricted to the college baseball population while the second model was restricted to college athletes from other varsity sports teams.

As shown in Table 4, an increase in the amount of engagement with superstitious behaviour for college baseball players was associated with an increase in the belief in the amount of time luck affects what happens in a game or competition by about 50%. For the non-baseball college athlete population, this association was approximately 34%. A *z*-test was conducted to assess if the odds ratio for college baseball players was significantly higher than for all other college athletes; the results were not significant ($z=0.51, p=0.30$).

Table 4. Ordinal logistic regression results exploring the uncertainty hypothesis.

Variable	Est. odds ratio (Std. Err.)	95% Confidence interval		p-value
		Lower	Upper	
Engagement-SBP (<i>n</i> =36)	1.50 (0.30)	1.01	2.23	<0.050
Engagement-SNBP (<i>n</i> =263)	1.34 (0.10)	1.16	1.55	<0.001
Impact-SBP (<i>n</i> =36)	1.98 (0.57)	1.13	3.47	<0.050
Impact-SNBP (<i>n</i> =61)	1.69 (0.18)	1.38	2.08	<0.001

Additionally, an increase in the amount of impact a college baseball player believes superstitious behaviour has on performance was associated with an increase in the belief in the amount of time luck affects what happens in a game or competition by about 98%. For the non-baseball college athlete population, this association was approximately 69%. A *z*-test was conducted to assess if the odds ratio for college baseball players was significantly higher than other varsity athletes; the results were not significant and similar to the first two models ($z=0.30, p=0.38$). While not statistically significant, the correlations and ordinal regressions both trend toward showing that the uncertainty hypothesis is stronger among college baseball players, as opposed to other college athletes.

Discussion

Findings in this empirical study confirm the widely held belief that superstitious behaviours are common among college athletes, and that these practices are particularly prevalent

among college baseball players. Additionally, the current study found that college athletes engage in superstitious behaviours often, despite reporting that these behaviours may have limited impact on athletic performance or outcome. Though these participants acknowledged that no causal link seems to exist between these behaviours and influencing events, they nonetheless engage in superstitious practices.

While it is widely acknowledged that rituals serve to calm athletes by providing a predictable routine without distractions (Lobmeyer & Wasserman, 1986), the distinction between sport rituals and superstitions can become blurred when superstitious behaviours function to relieve tension among athletes. In baseball, for example, coincidental superstitions have been associated with the unconscious rituals of players, such as batters shrugging their shoulders or pulling the cap or helmet down in a specific manner before each pitch (Ciborowski, 1997). On the other hand, this cognitive process of response and reinforcement has been described elsewhere as “win stay-lose shift” (Olton, Handelman, & Walker, 1981), suggesting that individuals remain consistent with strategies related to successful outcomes but shift to other behaviours when the strategy no longer works.

The blurring of beliefs and behaviours may be a limitation of the methodology utilized in this study, as the survey relied on individual, abstract reflection outside the context of sport. On the other hand, qualitative methods such as interviewing athletes about their superstitious behaviours can yield problematic findings too, as these beliefs and behaviours may be covert (Becker, 1975; Neil, 1982) and intended to remain so by the athletes themselves. Nonetheless, various methods should be utilized across sports contexts to further illuminate the individual and collective meanings of these practices.

As such, there is a continued need to build on empirical studies to demonstrate that sport superstitions in their many forms serve to regulate tension and potentially provide a psychological placebo (Brevers et al., 2011). This placebo effect may lead to increased levels of control, confidence and self-efficacy among athletes, ultimately improving their performance (Damisch, Stoberock, & Mussweiler, 2010; Schippers & Van Lange, 2006). Such findings may be utilized by practitioners, such as coaches and sport psychologists, who work with athletes in a variety of uncertain and stressful contexts. On the other hand, it is evident from this study that a greater sense of uncertainty leads to increased superstitious behaviours as a coping mechanism, suggesting that practitioners might work with college athletes to reduce anxiety within the sports context. Other methods of stress relief, such as visualization, meditation and the practice of pre-competition routine may likewise reduce the use of superstitious behaviours among this population.

In summary, the current study provides comparative analyses of college athletes’ superstitious beliefs and behaviours, finding significant differences by sport. Specifically, Division I college baseball players were found to exercise more superstitious behaviour than varsity athletes from other sports, despite their lack of confidence in the efficacy of these behaviours. It is possible that superstitious behaviours and rituals are a significant part of baseball culture historically, relative to other sports contexts, regardless of competitive level. We must remain cautious, however, as these findings at the Division I collegiate level may not be generalizable in other sport settings and at other educational institutions. While the current study did not manipulate perceptions of control among participants, we found support for the uncertainty hypothesis among college athletes broadly, and baseball players specifically. Follow-up studies that include larger sample sizes would help decipher the extent to which the uncertainty hypothesis differs between college baseball players and other college athletes. Overall, how-

ever, this study suggests that the level of perceived uncertainty in a sports context may be a powerful predictor of the frequency and intensity of superstitious use among college athletes.

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