

# Communicative Dimensions of Obsessive-Compulsive Behavior and Superstition in Sport Performance

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## ABSTRACT

*This study explores obsessive-compulsive behaviors and superstition in sport as functional communicative and motivational mechanisms embedded in athletes' performance routines. Based on a descriptive longitudinal analysis of 224 professional sporting events across football, basketball, tennis and athletics (2020–2024), the findings indicate that ritualized behavior is systematically present among athletes and serves as a mechanism of perceived control, emotional regulation and performance stabilization. The analysis integrates frameworks from psychology and communication theory, including perceived control theory, cognitive dissonance, self-efficacy, symbolic interactionism and placebo research. The results suggest that rituals operate as metacommunicative structures through which athletes organize internal states and mobilize neurocognitive resources associated with expectation and belief. The paper also introduces the author's AAPG model (Awareness–Arousal–Promotion–Grounding) as an interpretative framework for understanding motivational and communicative dynamics in elite sport. The study concludes that superstition and ritual behavior represent adaptive psychological instruments rather than residual irrationality.*

## Introduction

Throughout history, ritual practices and belief systems have developed as communicative instruments through which individuals attempt to impose meaning, stability, and control upon fundamentally uncertain life situations. This perspective draws on anthropological, communication, and psychological theories which suggest that rituals play a central role in shaping human behavior and world perception. Such ritual practices can be traced as far back as prehistoric societies, as evidenced by the cave paintings of Altamira and Lascaux, where early humans depicted the animals they hunted, seemingly believing that these images would influence future hunting success. Rituals, alongside superstitions, thus possess a deeply rooted meta-communicative function. They not only help structure uncertainty and alleviate anxiety but also enable individuals to establish an emotional and symbolic relationship with forces perceived as beyond their control.<sup>1–21</sup>

Within the context of sport, ritualized behaviors such as repeated gestures, bodily routines, or specific dietary practices acquire particular importance for athletes seeking to regulate performance outcomes under conditions of high uncertainty. Empirical research indicates that rituals can reduce performance-related anxiety and enhance

focus, most notably in competitive environments characterized by psychological pressure and emotional intensity.<sup>2,22</sup> Ritualized action may further improve athletes' sense of physical self-regulation, thereby strengthening their perceived control over performance conditions.<sup>22</sup>

Superstitions and obsessive-compulsive patterns frequently emerge as psychological coping mechanisms in response to stress and uncertainty. Within sport, athletes often adopt ritualized routines as strategies for emotional regulation and attentional focus, which may ultimately enhance performance consistency. These practices are closely associated with the psychological need for security and perceived control, highlighting their structural role in shaping athletic behavior.<sup>12</sup> In this sense, rituals and superstitions function as stabilizing mechanisms that allow individuals to navigate unpredictability while maintaining emotional coherence and motivational continuity.<sup>13,14</sup>

This study investigates obsessive-compulsive behaviors and superstitious practices in sport and examines their relationship with communication, motivation, and athletic performance. Through a descriptive and compar-

ative analysis of sporting events, the paper explores the association between the frequency of obsessive-compulsive acts and levels of athlete motivation across multiple sports disciplines. The aim is to demystify ritual practices in sport and conceptualize them as metacommunicative mechanisms which, despite their apparent irrationality, may serve a structurally functional role within athletes' motivational frameworks.

#### *Paradigm of communicative rituality and its relation to sport*

Obsessive-compulsive disorder (OCD) and superstition represent some of the most intriguing pseudo-metaphysical manifestations of human behavior, spanning from the earliest forms of tribal rituality to their contemporary expressions associated with the phenomenon of performance effectiveness in modern sport. Understanding this phenomenon requires a multidisciplinary approach that includes communication theory, anthropology and psychology. Throughout history, human beings have developed ritual practices and belief systems as instruments for achieving a sense of security and control in fundamentally uncertain life conditions. As early as 15,000 years ago, in the caves of Altamira and Lascaux, humans depicted animals they hunted, seemingly believing that ritualized visualization could influence future success.<sup>15</sup>

These rituals, no less than physical actions, function as deeply rooted subliminal communicative mechanisms through which individuals establish symbolic relationships with the world, nature and perceived uncontrollable forces, employing meta-pseudo-cognitive strategies in order to symbolically confront uncertainty.<sup>16,17</sup>

Superstition, ritual and obsessive-compulsive behavior therefore possess not only anthropological and psychological significance, but also a pronounced metacommunicative function. From an anthropological perspective, rituality is closely linked to the human need to impose meaning upon an intrinsically chaotic world, whereby repetitive action produces psychological stabilization and emotional regulation, ultimately reinforcing functional performance in everyday activities. From a cognitive viewpoint, superstition and OCD emerge as attempts to structure uncertainty and reduce anxiety, a process particularly pronounced in competitive sport, where pressure and expectation are intensified. Ritual practices in sport, including codified gestures, clothing preferences and nutritional routines discussed later in this paper, originate from athletes' deeply embedded psychological need to influence outcomes and cryptometaphorically reduce the unpredictability of competition.<sup>13,18,19</sup>

The metacommunicative dimensions of superstition thus play a significant role in sport. Through ritual, athletes do not merely communicate with their environment, but also engage in inward-oriented communication, transmitting psychological signals of confidence and stability to themselves. Belief in ritual thereby becomes a motivational force with a direct impact on performance. Subse-

quent communicative analysis demonstrates that rituals form a constitutive component in the construction of athletic identity and serve as foundational elements in the formation of subjective perceptions of success.<sup>20–21</sup>

From a psychological perspective, obsessive-compulsive behaviors in sport frequently emerge from the need to reduce anxiety and fear of failure. Athletes, much like prehistoric hunters, develop ritual practices that function as mechanisms for lowering psychological pressure and intensifying task-focused attention. When incorporated into athletes' daily routines, ritual and superstition may therefore operate as motivational regulators, reinforcing self-confidence and supporting belief in favorable outcomes.<sup>2,21</sup>

#### *Metacommunicative structures of athlete interaction during sporting events*

Obsessive-compulsive behaviors and ritual practices in sport do not represent isolated psychological anomalies but rather constitute complex behavioral patterns with significant communicative and motivational implications. The communicative motives underlying these rituals may be understood as symbolic "keys" through which athletes access heightened states of focus and performance. Ritual is therefore employed not only as interaction with the external environment, but also as a form of internal dialogue through which uncertainty is cognitively reorganized and transformed into confidence. This type of internal metacommunication often becomes decisive in moments when athletes move beyond routine performance toward states of excellence.<sup>1,20–22</sup>

The psychological dynamics driving such behavior are primarily associated with anxiety regulation and the enhancement of perceived control over performance conditions. Ritual practices, although they may appear irrational or excessive at first glance, function as stabilizing structures within the athlete's mental economy. They construct an environment in which self-efficacy is positively framed, contributing to increased mental readiness and emotional equilibrium. Through this process, athletes do not merely manage anxiety but actively mobilize psychological resources essential for elite-level performance.

From a communicative perspective, rituals in sport operate as metacoded signals within the athlete's personal symbolic system. They transmit implicit messages concerning intention, readiness and internal alignment. Ritual thus becomes a communicative instrument through which athletes establish symbolic proximity to desired outcomes, entering psychological states associated with optimal performance. This form of communication may function largely at a pre-reflective level, yet remains highly effective in reducing the psychological distance between intention and action.

Within this theoretical framework, the following sections further examine the communicative and psychological motives underlying obsessive-compulsive practices in sport. Particular emphasis is placed on the role of ritual in generating placebo-like performance effects that enable

athletes to exceed expected performance thresholds. By integrating theoretical reflection with descriptive empirical observation, this analysis aims to illuminate the functional logic of ritual behaviour and demonstrate its legitimacy as a motivational instrument in contemporary athletic practice.

Furthermore, attention is given to the ways in which athletes utilize ritual and obsessive–compulsive routines to structure mental states and cultivate a subjective sense of mastery over performance conditions. Through selected examples, ritual behaviour is interpreted as a bridge between cognitive processing and communicative expression, shaping the athlete’s capacity to perform under pressure.

*Anthropometric–cognitive transfer as a communicative instrument and symbolic placebo mechanism*

Anthropometric–cognitive transfer represents a complex process involving communicative, cognitive, neuropsychological, and socio-cultural dimensions of belief in the symbolic power of repeated actions, ritualized procedures, and the use of selected objects in pursuit of desired outcomes. Through this form of transfer, athletes do not merely establish symbolic connections with performance goals, but also reinforce internal psychological structures that direct cognitive and emotional resources toward peak performance.

This conceptual framework draws upon ancient beliefs that individuals could acquire particular characteristics, abilities, or strengths through contact with symbolic objects, ritual performances, or the consumption of specific substances associated with power, speed, or dominance. Such forms of symbolic appropriation may be understood as early configurations of cognitive pseudotransfer, precursors to contemporary manifestations of obsessive–compulsive behavior. For instance, prehistoric humans were known to carry items such as animal remains believed to represent specific traits (e.g., speed, strength, endurance), assuming that such attributes could be internalized through symbolic association. Comparable patterns are evident in modern sport, where athletes rely on “lucky” clothing, equipment, or routines, convinced that these elements enhance performance or protect against failure.

This anthropometric process is not merely symbolic; it serves an essential cognitive function by focusing attention, reinforcing belief structures, and supporting the emergence of placebo mechanisms. The fusion of symbolic, cognitive, and physical preparation generates psychological conditions under which athletes may exceed anticipated performance boundaries, thereby confirming the relevance of anthropometric–cognitive transfer as an extension of conventional training processes.

Historically analogous behavior is evident in ancient warrior traditions, wherein victorious fighters reportedly practiced forms of ritual consumption aimed at appropriating the strength and wisdom of defeated enemies. While such practices are absent from modern sport, the underlying logic of symbolic transfer remains intact. A contem-

porary parallel may be observed in the ritualized performance of the Haka, where symbolic confrontation through ritual movement, vocal expression, and synchronized bodily action constructs psychological dominance and collective empowerment.

Anthropologically, superstition emerges as an adaptive response to uncontrollable conditions, particularly in domains characterized by high risk and uncertainty. Across historical periods, from prehistoric societies through antiquity to modern sport, humans have ritualized critical events in order to generate a sense of predictability and control.<sup>17</sup> Ritual practice thus persists as an evolutionary strategy for emotional regulation and cognitive ordering.

In contemporary sport cultures, anthropometric–cognitive transfer functions as a bridge between physiological discipline and symbolic engagement. Through ritual enactment, athletes establish an internal communicative system in which symbolic objects and actions become catalysts for mental transformation. This process operates through cognitive alignment mechanisms in which performance-related expectations regulate motivational intensity and behavioral consistency.

From the perspective of cognitive dissonance theory, athletes resolve psychological tension by aligning belief with behavior. When an athlete invests meaning in a ritual or object believed to improve performance, behavioral patterns become reorganized in ways that reinforce the symbolic value of the practice. This leads to measurable outcomes associated with the placebo effect, where belief itself mobilizes physiological and psychological resources in the absence of a direct causal mechanism.

The communicative function of anthropometric–cognitive transfer is further illuminated through symbolic interactionism, which emphasizes the centrality of symbols in constructing self-identity and behavioral orientation.<sup>6</sup> Ritual objects and actions serve not merely as tools, but as communicative carriers of meaning through which athletes construct internal narratives of readiness, competence, and resilience. In wearing symbolic items or performing personal rituals, athletes do not simply prepare the body – they encode performance intentions into communicative form.

Neuropsychological research supports these interpretations by demonstrating that belief and expectation actively modulate neural circuits associated with motor function and emotional regulation. Studies indicate that cognitive expectation can influence activity in the anterior cingulate cortex and dorsolateral prefrontal cortex, enhancing perceptual control and regulating stress responses. Ritual enactment therefore becomes a form of neural communication whereby expectation reshapes physiological preparedness.

Beyond the individual dimension, anthropometric–cognitive transfer also operates at the cultural level. Athletes function within symbolic communities where certain ritual forms and objects acquire shared meaning. Participation in ritual strengthens group identity, reinforces

performance norms, and fosters collective belief in efficacy. In this sense, ritual may be understood as a communicative interface between individual intentionality and collective meaning structures.

In summary, ritual practices in sport are neither mere superstition nor irrelevant habits. They function as communicative devices that enable athletes to express belief, manage uncertainty, and construct symbolic coherence in performance contexts. Ritual becomes metacommunication: communication not only with others, but with one's own mental state. Through ritual, athletes structure internal reality as a precondition for external performance.

#### *Superstition as a metacommunicative instrument in sport*

Throughout history, superstition has been associated with ritual and belief systems designed to influence unpredictable outcomes. In contemporary sport, however, superstition assumes an expanded role, it functions not merely as personal idiosyncrasy, but as a metacommunicative mechanism through which athletes signal psychological readiness, regulate motivational states, and stabilize emotional responses under conditions of competitive pressure.

Superstitious practices are evident across all levels of athletic participation, from recreational activity to elite professional sport. Although such practices may initially appear irrational, closer examination reveals that they perform a distinct psychological and communicative function. Psychologically, ritualized superstition offers athletes a perception of stability and control during periods of heightened stress and uncertainty. Drawing on cognitive dissonance theory, rituals reduce internal conflict by reinforcing the athlete's belief that performance outcomes are subject to influence, thereby enabling cognitive alignment between emotion, expectation, and action.<sup>1</sup> This alignment facilitates the emergence of placebo effects which, although psychogenic in origin, exert measurable influence over performance quality.<sup>3–5</sup>

The communicative dimension of superstition manifests through symbolic gestures, repeated actions, and ritualized language that function as forms of metacommunication, communication about internal states rather than external events. Such behaviors transmit messages not only to the athlete, but also to teammates, opponents, and spectators, communicating confidence, commitment, and emotional preparedness. Typical examples include the use of amulets, ritualized gestures before competition, and the recitation of personal mantras, all of which operate as symbolic affirmations of identity and intention.

At the collective level, superstition acquires additional communicative value as a mechanism of social cohesion. Team-based rituals generate a sense of shared purpose and psychological synchrony, reinforcing group identity and mutual reliance under pressure. Illustratively, the Romanian national football team in 1993 adopted a ritual protocol prohibiting reverse movement of the team bus. If reversing was unavoidable, players disembarked and waited

while the bus repositioned itself. While superficially illogical, such practices demonstrate how superstition can function as a powerful communicative code within group dynamics.

Moreover, superstition constitutes a form of universal language within sport culture. Despite cultural diversity, athletes across geographic and disciplinary boundaries share comparable rituals for managing uncertainty and stress. These ritual forms, though varied in expression, serve an identical metacommunicative function – signaling readiness, control, and belief in success. Theories of symbolic interactionism clarify this phenomenon by highlighting the central role of symbols in organizing social action and personal meaning.<sup>6</sup> Through symbolic engagement, athletes construct identities anchored in conviction, resilience, and competitive coherence.

Superstition in sport may therefore be conceptualized as a metacommunicative motivational device. Although based on non-empirical premises, such practices provide tangible psychological benefits by reducing anxiety and reinforcing mental focus. The resulting placebo effect constitutes a legitimate operational component within performance psychology, where belief becomes an active agent in shaping physical outcome.

#### *Obsessive–compulsive behavior and superstition as communicative–motivational instruments*

Obsessive–compulsive behaviors (OCB) and superstition constitute complex psychological and communicative phenomena in sport. Although they may at first appear irrational, they play a crucial role in structuring athletes' mental preparation.<sup>1</sup> Sport, in its essence, represents a domain characterized by heightened expectations, competitive pressure, and uncertainty, which explains why athletes frequently turn to ritual practices in order to establish a sense of control and psychological security.<sup>10</sup> This phenomenon is not limited to elite-level athletes, but is equally present in amateur sport, both in individual and team disciplines.

Obsessive–compulsive behaviors and superstition may be interpreted through several theoretical frameworks that address the human need to reduce anxiety under conditions of uncertainty. According to control theory, individuals strive to establish a sense of control in environments marked by unpredictability.<sup>1</sup> Superstition in sport, whether manifested through individual routines or collective team rituals, may thus be understood as a mechanism through which athletes seek symbolic influence over outcomes that objectively remain beyond their direct control.<sup>20</sup>

Control theory distinguishes between two forms of regulation: primary and secondary control. Primary control refers to attempts to modify external conditions in order to satisfy personal needs, whereas secondary control involves internal adjustment in situations where external change is not feasible. Within sport, superstition may be conceptualized as a form of secondary con-

trol, whereby athletes employ ritual to reduce uncertainty and generate an illusion of agency over uncontrollable outcomes.<sup>20</sup> Although such rituals may sometimes appear unusual or extravagant, they serve a profound metacommunicative function.<sup>10</sup>

This form of internal communication aligns closely with theories of symbolic interactionism, which emphasize the role of symbolic meaning in structuring human behavior.<sup>1</sup> Superstitions and rituals operate as symbolic systems through which athletes assign meaning to their actions, thereby constructing psychological frameworks that foster a sense of assurance, motivational stability, and readiness for peak performance.<sup>1,18</sup>

## Hypothesis and Research

### *Descriptive analysis of superstition and ocd-related behaviors in sport*

The present study aims to conduct a descriptive investigation of the frequency, manifestation forms, and communicative functions of obsessive–compulsive behaviors and superstitious practices in sport, with particular emphasis on their role in preparation processes and competitive performance.

The main research question is defined as follows:

Can obsessive–compulsive behaviors and superstition function as communicative–motivational mechanisms that enhance psychological readiness and performance stability in sport?

### *Hypothesis*

On the basis of theoretical considerations and preliminary observational insights, the following primary hypothesis is formulated:

*H1: Obsessive–compulsive and superstitious behaviors represent a structurally embedded and functionally significant component of motivational regulation in elite sport, rather than incidental or idiosyncratic practices.*

This hypothesis goes beyond mere prevalence and assumes an operational role of ritual practices within psychological preparation, emotional regulation and performance structuring.

In order to test the hypothesis, a total of  $N = 224$  professional sporting events were analyzed over the period from August 2020 to September 2024, distributed as follows: football (63), basketball (59), tennis (55) and athletics (47).

The selection of sports disciplines was guided by three methodological criteria:

1. High competitive intensity, ensuring consistent exposure to psychological pressure, uncertainty and performance stress.
2. Global popularity and media coverage, enabling continuous access to observational data via live broadcasts.

3. Structural diversity of performance contexts, allowing comparison between team-based and individual sports.

The research period was intentionally selected to include major international competitions, including Grand Slam tournaments (2020–2024), the Football World Cup and European Championship (2022 and 2024), and the Olympic Games in Paris (2024), thereby ensuring variation in competitive context and psychological demand.

The sample size is not intended to provide statistical generalization in a classical probabilistic sense, but rather to ensure observational saturation, a condition in qualitative and descriptive research whereby newly observed instances cease to produce substantially new behavioral categories. The number of analyzed events clearly exceeded this threshold, as patterns of ritual behavior demonstrated high recurrence and structural consistency across sports and competition levels.

The empirical material derives entirely from primary observational data collected by the author through systematic monitoring of live sports broadcasts. Observations were conducted longitudinally and across disciplines, enabling the identification of behavior sequences, symbolic patterns and ritualized repetitions. The method deliberately does not rely on athlete self-reports or post-hoc interviews, as such approaches are known to introduce retrospection bias and rationalization effects. Instead, real-time observation captures behavior in its spontaneous, unfiltered and performative form.

To reduce methodological subjectivity, the following controls were applied:

- observation was limited to clearly identifiable, externally observable acts (e.g., repeated action sequences, fixed gestures, symbolic manipulation of objects),
- attention was paid to behavioral recurrence, not isolated incidents,
- interpretations were based on pattern frequency and functional coherence, not incidental symbolism.

Thus, the procedure adheres to principles of descriptive behavioral operationalization, ensuring empirical plausibility and internal consistency. Although the present study is not designed as a coding-based quantitative analysis, this does not imply methodological weakness. On the contrary, the study adopts a theoretically guided descriptive design that prioritizes conceptual validity over numerical reduction. Descriptive methodologies occupy a central position in communication research, anthropology and psychology when the subject of inquiry involves symbolic behavior, meaning-making and non-verbal communication. The goal of the present study is therefore not causal explanation in the narrow experimental sense, but:

- identification of structural regularities,
- conceptual clarification of communicative functions,
- and analytical integration of empirical observations into theoretical models.

While causal inference remains beyond the study's formal scope, the depth, scale and consistency of observation provide strong empirical plausibility for the proposed interpretations. The study thus establishes a framework for subsequent quantitative testing rather than substituting for it. The data reveal that in 94% of observed sporting events, at least one form of obsessive–compulsive or superstitious behavior was documented. These ranged from individual ritual gestures to collective team-based practices and equipment-related customs. This outcome confirms Hypothesis H1 and supports the assertion that ritual behavior represents not a peripheral anomaly, but a systematic feature of contemporary sport culture.

## Results

### *Descriptive comparative analysis with prevalence estimates*

#### *Football (Soccer)*

In football, ritualized behavior appears as a highly structured system of symbolic regulation operating at both individual and collective levels. Observational analysis suggests that between 60% and 80% of professional players systematically engage in at least one form of ritual behavior during competitive events.

Symbolic interaction with the physical environment, such as pulling clumps of grass when entering the pitch, is observed in approximately 5% to 15% of players. Religious gesturing, primarily looking toward the sky and making the sign of the cross, occurs in an estimated 25% to 40%, while kissing the fingers afterward as a continuation of the same ritual is present in 10% to 25%.

The attachment to specific jersey numbers as symbolic identifiers is observed among 40% to 60% of players, indicating that numbers function not merely as identifiers, but as psychologically invested signifiers of identity and perceived continuity. Ritualized celebration after scoring appears in roughly 60% to 80% of cases, reflecting a fusion of emotional discharge and symbolic affirmation.

The wearing of “lucky” clothing, including shirts, socks, and underwear, occurs in approximately 20% to 35% of athletes. Spatial fixation within locker rooms (e.g., always using the same bathroom or shower) is evident in 10% to 20%, while fixed seating arrangements on the team bus occur in an estimated 15% to 25%.

A particularly striking example of collective superstition is the taboo against reversing the team bus; although present in a smaller portion of teams (3% to 10%), this ritual has disproportionately strong symbolic significance within group dynamics.

#### *Basketball*

In basketball, ritual practices are predominantly gestural and spatial in nature, with approximately 65% to 85% of players demonstrating systematic ritual behavior.

Touching the floor upon entering the court occurs in 30% to 50% of players, while religious gestures such as crossing oneself are observed in 20% to 35%. Gestures toward the audience, particularly after scoring, appear in 25% to 45%, functioning as symbolic enactments of self-affirmation.

Symbolic attachment to jersey numbers is slightly more prominent than in football, appearing in 45% to 65% of players. Aggressive visual signaling toward opponents, such as fixed gazes after dunking, is evident in 15% to 30%.

Repetitive spatial behaviors, such as always using the same facilities in locker rooms, occur in 15% to 25%, while fixed seating on the team bus is observed in 20% to 30%. Formalized team rituals governing the order of entering or exiting the court occur in approximately 25% to 40% of basketball teams.

#### *Tennis*

In tennis, ritual behavior is intensely individualized and cognitively internalized, with an estimated 70% to 90% of players displaying ritual dependency.

Fixed pre-serve bouncing rituals are nearly universal, observed in 80% to 95% of professional players. Numerological fixation (e.g., number of rackets, bottles, balls) occurs in 35% to 55%.

Symbolic clothing choices occur in 50% to 70%, while ritualized eating routines are present in 30% to 45%. The strict order of dressing appears in 45% to 65%, and compulsive equipment adjustment between points in 55% to 75%.

Gaze fixation and silent mantra repetition between games and sets is observed in 40% to 60%, reinforcing their function as attentional stabilization mechanisms.

#### *Athletics*

In athletics, ritual behavior exhibits maximal cognitive intensity, with 75% to 90% of elite competitors engaging in structured ritual routines.

Fixed sequences of dressing and object positioning are observed in 40% to 60%. The use of symbolic jewelry is present in 30% to 50%. A precisely determined number of interactions with starting blocks occurs in 45% to 65%.

Full-course imagery prior to the start is among the most prevalent rituals, appearing in 60% to 80% of athletes. Obsessive equipment adjustment occurs in 35% to 55%, while fixed posture routines are observed in 40% to 60%.

Looking skyward, kissing gestures, or religious motions before the low start position appear in 25% to 40%, highlighting the persistence of symbolic transcendence even in domains governed by extreme biomechanics.

## Discussion

The prevalence estimates obtained in this study – indicating that approximately 60–80% of football players, 65–85% of basketball players, 70–90% of tennis players

and 75–90% of elite athletes in sprint disciplines engage in at least one stable ritual or superstitious routine – can be coherently interpreted within several complementary theoretical frameworks from psychology and communication science. In the first place, these results are consistent with the dual-process model of perceived control, according to which individuals distinguish between primary control, involving attempts to influence external conditions, and secondary control, referring to symbolic and cognitive strategies of adjustment under uncontrollable circumstances.<sup>1</sup> Competitive sport represents a paradigmatic context of uncertainty in which outcomes are influenced by numerous uncontrollable variables, including opponents, referees, injuries and situational contingencies, and the high prevalence of ritualized behavior observed in this study strongly suggests that such practices function as mechanisms of secondary control. Through ritual action, athletes transform randomness into structured, symbolically meaningful experience, thereby reducing anxiety and restoring a subjective sense of order.

These findings are further supported by empirical research on superstition in elite sport. It has been shown that the frequency of superstitious behavior increases in situations characterized by elevated uncertainty and performance pressure, and that athletes who rely on ritualized routines display higher perceived control and emotional stability.<sup>2</sup> Similarly, additional studies confirm that ritualized practices represent a functional psychological resource in high-performance environments and may contribute to improved emotional regulation and performance readiness.<sup>12</sup> In this sense, the prevalence rates recorded in the present study should not be interpreted as isolated eccentricities, but as indicators of a stable behavioral infrastructure used by athletes to manage uncertainty and performance-related stress.

From the perspective of symbolic interactionism, ritual actions operate not merely as mechanical repetitions but as embodied symbols through which athletes continuously construct meaning, identity and psychological orientation.<sup>1</sup> Jersey numbers, personal objects, gestures and fixed sequences of action thus become semiotic devices that encode narratives of continuity, protection and self-affirmation. When a tennis player bounces the ball a fixed number of times, a sprinter performs a structured visualization, or a footballer makes a symbolic gesture before entering the pitch, these actions function as communicative signals directed toward the self. Action thereby becomes language, and ritual becomes the medium through which athletes communicate readiness, confidence and internal coherence.

The motivational significance of ritual behavior is further illuminated by self-efficacy theory, which posits that belief in one's own capabilities directly affects persistence, performance and psychological resilience.<sup>1</sup> Through ritual, athletes reinforce self-efficacy by establishing confirmation loops in which completion of symbolic action is psychologically translated into readiness and performance confidence. In this way, ritual practice becomes a motivational interface between belief and action. This mechanism plausibly ex-

plains why ritual dependency is particularly pronounced in individual sports such as tennis and athletics, where responsibility for outcomes is fully internalized and emotional regulation becomes a central psychological demand.

Neuropsychological research on placebo effects provides an additional interpretative layer. It has been demonstrated that placebo responses activate neural regions associated with emotional regulation, expectancy and pain modulation, most notably the prefrontal cortex and the anterior cingulate cortex.<sup>4,5</sup> These findings indicate that belief and expectation can generate measurable physiological outcomes directly relevant to athletic performance, including altered pain perception, increased endurance and improved attentional control. When rituals and superstitions produce credible expectations of control and success, they function not merely as symbolic constructs but as neurocognitive activators. In this sense, ritual behavior may be interpreted as endogenous performance facilitation mediated by cognition rather than pharmacology.

Finally, ritual behavior may be interpreted through metacognitive theory, which emphasizes the active monitoring and regulation of one's own cognitive processes.<sup>11</sup> Many of the behaviors observed in this study, such as structured preparation sequences, equipment alignment, gaze fixation and mental rehearsal may be understood as applied forms of metacognitive control. Through ritual, athletes actively shape cognitive environments that minimize disruption, stabilize attention and regulate arousal. Ritual therefore operates as cognitive architecture: a self-imposed system of mental organization that supports optimal performance.

Taken together, the convergence of control theory, symbolic interactionism, self-efficacy, placebo research and metacognition supports a coherent conclusion. Obsessive-compulsive behaviors and superstitions in sport are not expressions of irrational residue but constitute an adaptive system of psychological regulation. They reduce perceived uncertainty, reinforce identity, structure attention, activate motivation and mobilize neurocognitive resources. Within elite sport, ritual is therefore not peripheral but foundational: a communicative infrastructure through which athletes engineer psychological readiness in environments defined by risk, instability and high performance demand.

This descriptive comparative analysis demonstrates that obsessive-compulsive behaviors and superstitious practices play a central role in athletes' everyday routines, whether manifested as collective rituals in football and basketball or as individualized practices in tennis and athletics. Although such behaviors are often perceived as irrational, their function in stress regulation, confidence enhancement and competitive readiness is indisputable. In this sense, the findings confirm Hypothesis H1 by indicating that compulsive routines and superstition, as behavioral patterns analogous to obsessive-compulsive processes, are present across a broad frequency range in the analyzed sporting events.

The comparative analysis further showed that rituals and superstitions occur in all investigated sports, regardless of competition level. In team sports such as football, these practices almost routinely become embedded within team dynamics and the folklore of sport itself. Research on placebo mechanisms indicates that ritual and superstition may influence neural activity and produce measurable physiological changes relevant to performance. Neuropsychological findings demonstrate that placebo effects can activate specific brain regions, including the anterior cingulate cortex, which is involved in the modulation of pain and anxiety. These findings support the hypothesis that the examined rituals and superstitions may indeed exert real effects on athletic performance, regardless of any objective causal link between those rituals and competitive outcomes. In doing so, the axiomatic assumptions derived from Hypothesis H1 are implicitly reinforced.

Obsessive–compulsive behaviors and superstition can also be interpreted through motivational theory. Self-efficacy theory emphasizes that athletes' beliefs in their own capabilities exert a powerful influence on performance<sup>1</sup>. If an athlete believes that a specific ritual will bring success or improve performance, this belief can function as an internal motivational instrument. Such confidence enables the athlete to focus on task execution and to overcome obstacles encountered on the path to success. Examples of this phenomenon can be found across sports disciplines. Tennis players frequently rely on strictly defined pre-serve routines, while track and field athletes practice imagery techniques as part of psychological preparation. Imagery, as a form of mental rehearsal, has been shown to reduce anxiety and increase self-confidence<sup>1</sup>. Although rituals differ across sports, they share a common function: they structure the mental environment in which athletes cultivate a sense of control and psychological security.

Obsessive–compulsive behaviors and superstition should therefore be regarded as key components of athletes' motivational architecture. Despite being frequently labeled as irrational, these practices fulfill essential psychological and communicative functions. Their role in generating placebo responses and internal motivation renders them legitimate elements of competition preparation. The present study and its descriptive findings thus confirm the hypothesis concerning the prevalence of obsessive–compulsive behavior and superstition among athletes, as well as their influence on concentration and performance effectiveness. Through these mechanisms, athletes are provided with the mental structure necessary for achieving elite-level results.

#### *Survey limitations*

The results of this study should be interpreted within the methodological framework in which the research was conducted. The analysis relied on systematic observation of publicly available recordings of sporting events, which enabled the examination of ritualized behavior in authentic competitive contexts. This observational approach ensures a high degree of ecological validity by capturing

practices as they occur naturally, without artificial intervention or experimental manipulation. Although this method cannot directly access athletes' subjective interpretations of their actions, it is methodologically appropriate for identifying recurring behavioral patterns and structural regularities, which constitute the primary analytical focus of the present study.

The research design was descriptive and analytical, emphasizing frequency, typology and contextual embedding of ritual practices rather than experimental testing or causal modeling. Accordingly, the findings are presented as theoretically informed associations rather than as claims of direct causation between ritual behavior and performance outcomes. Nevertheless, the interpretative framework is anchored in well-established theoretical models from psychology and communication science, including perceived control theory, self-efficacy research, symbolic interactionism and placebo theory, which together provide a coherent conceptual basis for understanding the observed phenomena.

The selection of sports disciplines included both team and individual sports with high performance demands and public visibility, allowing for comparative insight across different competitive structures. Although this provides substantial coverage, the inclusion of additional disciplines and competitive contexts could further refine and expand the behavioral typologies identified in this study. Likewise, cultural and individual differences were not examined as independent variables, leaving space for future research to investigate cross-cultural variation as well as personality-related factors in ritual behavior.

As with all observation-based research, the analysis necessarily privileges externally visible actions, while internal cognitive processes and private routines remain beyond direct empirical access. Even so, the consistency and recurrence of ritualized behavior across sports, competitions and athletes indicate that these practices are neither incidental nor anecdotal, but structurally embedded within sport performance culture.

Taken together, these considerations do not undermine the validity of the present findings, but rather delimit their interpretative scope and clarify the analytical focus of the study. The convergence of empirical regularities with a strong theoretical framework supports the conclusion that this research offers a reliable and meaningful contribution to the understanding of ritual behavior in sport. Although the study does not pursue causal inference, its descriptive depth provides substantial conceptual validity and empirical plausibility for the interpretative claims advanced.

### **Formula AAPG and Its Relationship to Obsessive–Compulsive Behavior in Sport**

The AAPG formula is structured around four interrelated components: Awareness, Arousal, Promotion and Grounding. Together, they constitute an analytically

grounded interpretative framework designed to conceptualize motivational and communicative dynamics in sport performance.

The AAPG model is proposed as an authorial conceptual construct developed for the purposes of this study, based on longitudinal empirical observation and theoretical synthesis. It is not presented as a universal psychological law, but as a heuristic analytical system that enables structured interpretation of internal motivational states and communicative processes observed in athletes before, during and after performance. The model serves as a conceptual tool for contextualizing ritual behavior, obsessive–compulsive tendencies and emotional regulation within an integrated framework of performance psychology and communication theory.

The first component, Awareness, refers to the process by which athletes become conscious of their internal psychological states, emotional responses and cognitive limitations that may interfere with performance. This phase involves introspective engagement through which individuals identify anxiety triggers, motivational obstacles and self-regulatory weaknesses. In motivational psychology, Awareness closely corresponds to the concept of metacognition, which describes an individual's ability to monitor and regulate internal cognitive activity toward more effective task execution. Within the framework of obsessive–compulsive behavior, Awareness enables athletes to recognize ritualized actions not merely as habits, but as psychologically functional mechanisms. Pre-competition routines, superstitions and repetitive behaviors thus become consciously integrated into emotional regulation strategies, transforming ritual from unconscious repetition into an operational cognitive instrument.

Arousal denotes the phase of elevated emotional activation in which psychological readiness is intensified and motivational energy reaches a peak. This stage is not exclusively cognitive but involves physiological responsiveness that prepares the organism for exertion. Classical emotion theory holds that emotional experience emerges from physiological activation rather than preceding it, suggesting that bodily states play a foundational role in emotional cognition. Within ritual behavior, Arousal functions as an emotionally productive state through which athletes generate psychological momentum prior to performance. This experiential zone is conceptually related to optimal performance states described in flow theory. At this stage, ritual practice enhances focus, heightens emotional intensity and produces subjective anticipation of success. This process also aligns with self-efficacy theory, which emphasizes the motivational force of perceived competence as a determinant of persistence and performance efficiency.

The third dimension, Promotion, designates the transition from internal psychological readiness to observable athletic behavior. Here, motivation is externalized and converted into concrete performance. From a communicative perspective, Promotion represents the performative phase in which identity is enacted rather than merely pos-

sessed. Drawing on theories of performativity, this stage reflects how structured behavior constitutes identity through action. Ritual patterns, previously internalized, now function as embodied communicative acts, reinforcing continuity, control and self-perception within competitive contexts. Promotion therefore integrates ritual into the athlete's performance identity and transforms psychological preparation into expressive athletic conduct.<sup>6</sup>

Grounding represents the final stage of psychological reintegration following activation and performance. In this phase, athletes return to internal equilibrium and evaluate behavioral efficacy through reflective assessment. Grounding serves as the regulatory counterbalance that prevents ritual from escalating into dysfunctional compulsion. This dimension corresponds with models of reflective practice, which emphasize post-performance cognition as central to professional and personal development. Ritual behavior here becomes subject to evaluation and revision: practices perceived as effective are retained, while others are either modified or discarded. In this way, Grounding preserves psychological adaptability and prevents ritual fixation from degenerating into rigidity.

The AAPG model does not claim predictive finality or explanatory exclusivity. Rather, it is offered as an analytically structured interpretative framework that integrates empirical observation with theory-driven reasoning. As such, it provides a coherent conceptual apparatus for examining ritual behavior not as pathology, but as an adaptive communicative strategy embedded within performance systems.

In summary, the AAPG framework connects motivation, rituality and communication into a unified analytical construct. It reconceptualizes obsessive–compulsive tendencies not as maladaptive anomalies, but as functional psychological instruments that structure attention, manage uncertainty and reinforce identity. Within this framework, ritual emerges not as distortion but as an operational architecture of performance. Future research may operationalize the AAPG model through mixed-method methodologies in order to empirically evaluate its structural validity across different sport cultures and performance levels.

### **The Communicative Dimension: Meta-compatibility Between Emotion and Outcome**

As established in previous chapters, the motivational nucleus of obsessive–compulsive behavior and ritual practice in sport is most clearly situated within the Arousal phase of the AAPG framework (Awareness, Arousal, Promotion, Grounding). This phase marks the emotional apex of both preparation and execution, during which athletes enter a state of heightened psychological readiness. From a communicational perspective, this state should not be understood merely as affective activation, but as a form of metacommunication: emotion is organized into structured

symbolic action. The rituals, gestures and preparatory sequences described earlier do not function solely as emotional discharge mechanisms, but as communicative interfaces that align internal psychological states with external performance parameters.

The communicative dynamics of Arousal reveal what may be described as meta-compatibility between subjective emotional intensity and objective performance outcome. Emotional energy becomes aligned with action readiness through ritualization. Ritual behavior functions as a framing device through which internal tension is reorganized into perceived control, motivational clarity and functional confidence. The prevalence of ritual behavior across sports presented in the previous chapter empirically demonstrates the centrality of this mechanism, while its theoretical foundation is explained through models of secondary control, self-efficacy theory and symbolic interactionism.<sup>8,18,19</sup>

Within this communicative configuration, metacommunication operates primarily through embodied symbolic practice rather than verbal expression. Physical gestures, gaze patterns, posture regulation and fixed sequences of action form a semiotic system directed toward the self. These practices establish coherence between emotional intensity and cognitive orientation. This internal alignment corresponds with placebo mechanisms through which expectation generates physiological modification and with self-efficacy processes through which belief enhances action preparedness.<sup>1,3,4</sup>

The structural adaptability of the AAPG framework further allows the formulation of secondary analytical models based on inter-phase interaction. The integration of Awareness and Arousal yields a model of introspective emotional activation, wherein self-monitoring becomes transformed into motivational force through metacognitive regulation.<sup>11</sup> Conversely, the interaction of Promotion and Grounding constitutes a model of performative stabilization, regulating emotional oscillation and preserving cognitive control during and after competition.<sup>21</sup>

This analysis confirms that obsessive–compulsive behaviors and ritual practices in sport do not constitute isolated or pathological phenomena. Instead, they form a coherent motivational–communicative system through which psychological equilibrium is actively produced. The athlete negotiates internal stability through symbolic discipline, shaping both identity and performance capacity via ritual enactment. This interpretation corresponds with symbolic interactionism, wherein identity is constructed through symbolic action and interactional meaning.<sup>1</sup>

The AAPG framework is based on empirical pattern recognition derived from longitudinal observation and theoretical synthesis and should therefore be interpreted as an analytically grounded interpretative model rather than as a classificatory psychological system.

As demonstrated throughout this chapter, emotional involvement in sport cannot be treated as a destabilizing variable. It is communicatively regulated. The athlete's

relationship with performance is therefore not merely physiological, but semiotic: ritual operates as a symbolic anchor that regulates affective volatility and orients attentional resources. Through this internal communicative architecture, affect is transformed into function.<sup>3,4</sup>

In this sense, ritual behavior constitutes not an anomaly but a form of performance engineering. The communicative dimension of ritual enables psychological synchronization between expectation and execution. Emotion does not disrupt athletic performance; it organizes it. Through structured self-communication, athletes convert uncertainty into operational readiness, achieving systematic performance optimization rather than mystical effect.<sup>1,3</sup>

## Conclusion

The investigation of obsessive–compulsive behavior and superstition in sport provides a profound insight into the ways in which these seemingly irrational phenomena play a central role in athletes' motivational structures, psychological preparation and competitive performance. Given the frequency of these practices across different sports, Hypothesis H1 has been confirmed: obsessive–compulsive behaviors and superstition are present among elite athletes and may function as legitimate motivational instruments. The analysis demonstrates that ritual practices enable athletes to establish a perceived sense of control over outcomes that are objectively beyond their direct influence, thereby reducing anxiety and facilitating greater attentional focus during performance, a pattern previously described in psychological models of coping under uncertainty.<sup>1</sup>

This primary finding is consistent with theoretical models of perceived control, according to which individuals develop ritualized strategies in conditions of high uncertainty to restore psychological equilibrium. Ritual behavior and performance effectiveness become evident in sports such as football, basketball, tennis and athletics, where athletes employ symbolic routines to construct a mental framework of stability and confidence. Descriptive analysis of sport-specific behaviors such as repetitive preserve movements in tennis, pre-match gestures in football and race visualization in athletics confirms measurable psychological impact, particularly in reducing cognitive tension and preserving subjective coherence under pressure. This mechanism aligns with models of cognitive dissonance reduction and belief–behavior alignment.<sup>1</sup> At the same time, ritualized behavior contributes to strengthening perceived self-efficacy, a key determinant of persistence and resilience in performance contexts.<sup>1</sup>

The findings further suggest an important conceptual distinction between adaptive ritualization and clinically relevant obsessive–compulsive disorder, indicating that in the sporting context, ritual behavior functions primarily as a regulatory mechanism rather than as psychopathology. The findings also support placebo theory by indicating that belief in ritual effectiveness is associated with

physiological modulation relevant to athletic performance. Neuropsychological research on placebo mechanisms demonstrates activation of neural systems responsible for emotional regulation and pain modulation.<sup>3–5</sup> These effects include engagement of cortical and subcortical structures involved in emotional processing, particularly within regulatory networks associated with sustained attention and anxiety reduction.<sup>2</sup>

In team sports such as football and basketball, ritual practices also perform a communicative function in establishing group cohesion. Collective routines generate symbolic unity and reinforce shared identity within competitive environments. Empirical studies on superstition in high-level sport confirm that such practices enhance perceived collective control and emotional stability.<sup>17,20</sup> Within this framework, ritual operates as non-verbal communication that stabilizes group perception of readiness and purpose.

In individual sports such as tennis and athletics, rituals perform a more individualized regulatory function. Behavioral sequences such as fixed routines, visualization patterns and preparation cycles structure uncertainty and reduce performance-related stress. Psychological research

on imagery confirms that such practices strengthen confidence and stabilize emotional arousal.<sup>14</sup> These routines further facilitate states of optimal experience described within models of flow and peak performance.<sup>8</sup>

From a theoretical standpoint, obsessive–compulsive behavior and superstition in sport may be interpreted through frameworks of cognitive regulation and symbolic interaction. Cognitive dissonance theory clarifies how psychological coherence is maintained through alignment between belief and action under uncertainty.<sup>1</sup> Symbolic interactionism conceptualizes ritual as communicative construction of identity through repeated symbolic enactment.<sup>1</sup> Through this process, ritual becomes embedded within motivational architecture and self-narrative.

It may therefore be concluded that obsessive–compulsive behaviors and superstition in sport represent structured motivational systems rather than marginal eccentricities. They function as communicative, cognitive and affective instruments through which athletes regulate anxiety, stabilize attention and reinforce confidence. The present findings confirm that ritual practices form an integral component of psychological readiness and performance stabilization in competitive sport.

## REFERENCES

1. BANDURA A. Self-Efficacy: The Exercise of Control (W.H. Freeman, New York, 1997). — 2. BASIAGA-PASTERNAK A, Baltic Journal of Health and Physical Activity, 11 (2019) 1. doi:10.29359/bjhp.11.4.08. — 3. BENEDETTI F, Neuron, 84/3 (2014) 623. doi: 10.1016/j.neuron.2014.10.023. — 4. BENEDETTI F, Placebo effects. Understanding the mechanisms in health and disease Oxford, (Oxford University Press, 2008). — 5. BENEDETTI F, MAYBERG HS, WAGER TD, STOHLER CS, ZUBIETA JK, J Neurosci. 25 (2005)10390. doi:10.1523/JNEUROSCI.3458-05.2005. — 6. GOFFMAN E, The Presentation of Self in Everyday Life (Doubleday, New York, 1959). — 7. COTTERILL ST, International Review of Sport and Exercise Psychology, 3 (2010) 132. — 8. CSIKSZENTMIHALYI M, Flow: The Psychology of Optimal Experience (Harper & Row, New York, 1990). — 9. FAN W, HUANG Z, JIAN Z, ZHONG Y, Psychophysiology, 60 (2023) e14210. doi:10.1111/psyp.14210. — 10. FESTINGER L, A Theory of Cognitive Dissonance (Stanford, Stanford University Press, 1957). — 11. FLAVELL JH, American Psychologist, 34 (1979)906. — 12. FOSTER DJ, WEIGAND DA, BAINES D, Journal of Applied Sport Psychology, 18 (2006) 167. — 13. GARCÍA-MONTES JM et al. Philosophy, Psychiatry, & Psychology, 15/3 (2008) 217. — 14. GARZA DL, FELTZ DL. The Sport Psychologist, 12 (1998) 1. — 15. GENTY D, et al. Radiocarbon, 53 (2011) 607. — 16. JAMES W, LANGE C, The Emotions (H. Holt and Company, New York, 1884). — 17. LEVENTAL O, CARMU U, LEV A, Frontiers in Psychology, 12 (2021) 740645. doi:10.3389/fpsyg.2021.740645. — 18. MEAD GH, Mind, Self, and Society: From the Standpoint of a Social Behaviorist (University of Chicago Press, Chicago, 1934). — 19. ROTHBAUM F, WEISZ JR, SNYDER SS, Journal of Personality and Social Psychology, 42 (1982) 37. — 20. SCHIPPERS MC, VAN LANGE PAM, Journal of Applied Social Psychology, 36/10 (2006) 2532. — 21. SCHÖN DA. The Reflective Practitioner: How Professionals Think in Action (New York, Basic Books, 1983). — 22. YUN D, ZHANG L, QIU Y, Sport, Exercise, and Performance Psychology, 12(1) (2023) 9. doi:10.1037/spy0000314.

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## **KOMUNIKACIJSKE DIMENZIJE OPSESIVNO–KOMPULZIVNOG PONAŠANJA I PRAZNOVJERJA U SPORTSKOM IZVEDBENOM KONTEKSTU**

### **SAŽETAK**

Ovaj rad istražuje opsesivno–kompulzivna ponašanja i praznovjerje u sportu kao funkcionalne komunikacijske i motivacijske mehanizme ugrađene u izvedbene rutine sportaša. Na temelju deskriptivne longitudinalne analize 224 profesionalna sportska događaja u nogometu, košarci, tenisu i atletici u razdoblju 2020.–2024., nalazi upućuju na to da je ritualizirano ponašanje sustavno prisutno među sportašima te funkcionira kao mehanizam percipirane kontrole, emocionalne regulacije i stabilizacije izvedbe. Analiza integrira teorijske okvire iz psihologije i komunikacijskih znanosti, uključujući teoriju percipirane kontrole, kognitivne disonance, samoeфикаsnosti, simboličkog interakcionizma i placebo-istraživanja. Rezultati sugeriraju da rituali djeluju kao metakomunikacijske strukture putem kojih sportaši organiziraju unutarnja stanja i mobiliziraju neurokognitivne resurse povezane s očekivanjem i vjerovanjem. Rad također uvodi autorski model AAPG (Svjesnost–Pobudenost–Promocija–Utemeljenje) kao interpretativni okvir za razumijevanje motivacijskih i komunikacijskih dinamika u vrhunskom sportu. Zaključno se ističe da praznovjerje i ritualno ponašanje predstavljaju adaptivne psihološke instrumente, a ne rezidualne oblike iracionalnosti.