Rethinking Social Cognition: Power, Status, and the Myth of Mindreading

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Abstract

Theory of Mind (ToM)—the capacity to infer others' mental states—has long been considered the cornerstone of social intelligence. Yet its conceptual and mechanistic foundations remain vague and empirically fragile. The core claim that humans can reliably infer others' hidden beliefs finds little empirical support: even in the most natural false-belief scenario—lie detection—people perform near chance, correctly identifying only about 54% of deceptions. Across humans and other social species, mental state inference is inconsistent, context-dependent, and error-prone, suggesting that "mindreading" reflects memory-based social inference—pattern matching over noisy interactional signals—rather than a dedicated cognitive module. In contrast, status recognition and power-relevant strategies are behaviorally robust, contextually stable, and consistently observed across species. We propose reframing social cognition not as a faculty for mental state inference, but as a structured system for tracking status and navigating power dynamics. This view, supported by behavioral, ecological, and neuroscientific evidence, grounds social intelligence in observable interactional dynamics and offers a unified, mechanistic, and cross-species account for understanding the architecture of social mind and society.

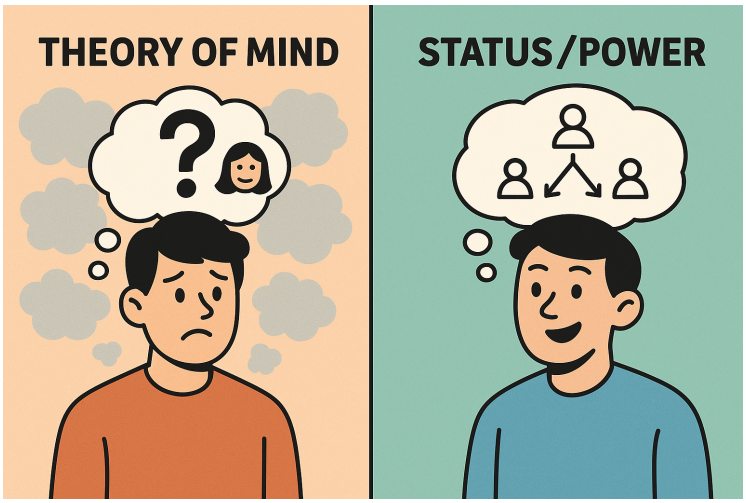

Figure 1: Across human and other social species, mental state inference is noisy, unstable, and often indeterminate—while power-related behaviors and status recognition are consistently observable, robust, and socially consequential.

1 Introduction

The dominant view in psychology and the humanities treats empathy as the cornerstone of social intelligence. This framing has given rise to the widespread belief in Theory of Mind (ToM) Premack and Woodruff [1978], Wimmer and Perner [1983], Baron-Cohen et al. [1985], Wellman et al. [2001]—a putative capacity to infer the mental states of others—as the primary driver of human social behavior. Supporting constructs such as mirror neurons and belief-inference mechanisms are commonly invoked to explain this ability, and are now deeply embedded in developmental psychology and theories of intersubjectivity.

However, empathy rarely governs real-world interaction. In high-stakes contexts—such as negotiations, interviews, sales, or relationships—individuals do not act based on shared emotional states. Instead, they assess power dynamics, form advantageous alliances, and adjust their behavior to navigate and negotiate mutual interests. These behaviors—alliances, avoidance, and strategic adjustment—are not guided by empathy but by implicit assessments of power, position, and potential outcomes.

Within traditional accounts, **ToM** remains both the most iconic and the least robust construct in social cognition. Despite decades of research, its conceptual basis remains vague and its mechanisms undefined. "Mindreading" is invoked metaphorically, lacking consistent cognitive grounding. Empirically, mental state inference is inconsistent, context-sensitive, and error-prone across both humans and non-human animals—suggesting that ToM reflects a general-purpose system of memory-based social inference rather than a distinct cognitive module.

In contrast, one class of social behavior is reliably observed across species: status recognition and power-sensitive interaction. From dominance displays in primates to prestige cues in humans, individuals monitor their own and others' positions within the social structure and adjust their behavior accordingly. These mechanisms are observable, rapid, and contextually robust—providing a clearer and more consistent foundation for understanding social cognition.

We propose reframing social intelligence—not as a capacity for inferring hidden mental states, but as a structured system for tracking status and navigating power. On this view, social cognition is best understood as strategic navigation of social structure, not as recursive belief attribution. This reframing offers a more mechanistic and cross-species account of how social cognition functions in real-world settings.

Our contribution. We advance a unified account of social cognition grounded in **relative position as the structural backbone of social behavior**. Social intelligence, in this view, is the capacity to perceive, interpret, and strategically act upon asymmetries of position and influence.

We outline four key aspects:

- **Mechanistic foundation:** We characterize ToM-like capacity as a form of memory-based social inference, supported by three general-purpose mechanisms—contextual inference, interactional memory, and patterned association.
- **Perceptual basis:** We establish *status recognition* as the perceptual substrate of social understanding—emerging early in development, generalizing across contexts, and guiding attention, interpretation, and prediction.
- **Behavioral realization:** We identify four strategic domains through which relative position shapes behavior—goal inference, coalition management, incentive structuring, and status navigation.
- **Integrative principle:** We propose that social cognition is organized around a unified backbone of *position dynamics*—tracking status and navigating power dynamics.

2 Related Work

2.1 Human Social Inference and Theory of Mind

A dominant assumption in social psychology and cognitive science is that human social intelligence hinges on the ability to infer others' mental states. From everyday conversations to moral judgment,

people appear to effortlessly attribute beliefs, desires, and emotions to those around them. This intuitive framework—commonly referred to as Theory of Mind (ToM)—suggests that social interaction depends on recognizing that others have minds, and that these minds guide their actions. The appeal of this idea has made ToM a central construct across developmental psychology, philosophy of mind, and neuroscience.

The earliest formal investigations of ToM focused on whether this capacity was uniquely human. Premack and Woodruff's landmark study in 1978 posed the question: Does the chimpanzee have a theory of mind? Premack and Woodruff [1978]. This question launched a decades-long search for evidence of ToM across species and developmental stages. Researchers devised a range of experimental paradigms—such as gaze-following Scaife and Bruner [1975], Butterworth and Jarrett [1991], visual perspective-taking Flavell et al. [1981], Masangkay et al. [1974], and false-belief tasks Wimmer and Perner [1983], Baron-Cohen [1997]—to test whether subjects could infer unobservable mental states.

Despite decades of research, empirical assessments of ToM remain plagued by fundamental limitations. Many paradigms rely on artificial, highly constrained settings that fail to capture the complexity and uncertainty of real-world social interaction. Others conflate behavioral prediction with mental-state attribution, blurring the line between observed success and underlying mechanism. As a result, it remains unclear whether ToM reflects a core cognitive capacity or merely a descriptive label applied to a diverse set of heuristic strategies. This ambiguity continues to challenge both the theoretical coherence and empirical validity of ToM as a unified construct.

2.2 Animal Social Inference and Comparative Evidence

Comparative research on Theory of Mind (ToM) began with a strikingly direct question: Does the chimpanzee have a theory of mind? Premack and Woodruff [1978]. Since then, nonhuman primates—especially chimpanzees—have become the primary focus of experimental efforts to test whether social animals can attribute mental states. Researchers have used a variety of tasks, including gaze-following, visual perspective-taking, and goal-directed behavior paradigms, to probe whether these species can infer what others see, want, or know.

Yet after decades of experimentation, the evidence remains inconclusive. Performance across species is highly variable, often task-dependent, and vulnerable to alternative explanations. Even in chimpanzees—our closest relatives with clearly strategic social lives—results on ToM tasks remain debated and fragmented Call and Tomasello [2008], Krupenye et al. [2016]. While some studies suggest sensitivity to visual access or goal direction, others fail to replicate key effects or reveal inconsistent patterns across individuals and contexts.

This instability has led many to question whether ToM is the right framework for understanding animal social cognition. Rather than indicating a lack of intelligence, the inconsistent results may reflect a mismatch between experimental assumptions and the actual structure of social inference in animals. Chimpanzees, for example, exhibit striking political behaviors, alliance shifts, and dominance strategies—clear signs of complex social reasoning Waal [2007]. The challenge lies in capturing these dynamics with tasks that reflect the real pressures and incentives of group life.

2.3 Power, Status, and Social Rank Dynamics

Across social species, social behavior is structured by rank. Dominance, status, and alliance dynamics are consistently observed across mammals—from wolves and hyenas to dolphins and primates—and play a central role in access, coordination, and survival. In contrast, evidence for Theory of Mind in animals remains sparse, inconsistent, and heavily debated. Even in chimpanzees—where political behavior is strikingly strategic Waal [2007]—ToM findings are weak, task-dependent, and contested. This asymmetry raises the possibility that the foundations of social cognition may lie not in attributing mental states, but in something else.

In humans, the asymmetry is equally stark. Behaviors related to power—such as status competition Anderson and Kilduff [2009b], alliance formation Tajfel et al. [1971], strategic exclusion of Oklahoma. Institute of Group Relations and Sherif [1961], and differential treatment based on perceived rank Magee and Galinsky [2008]—are reliably recognized and consistently shape interaction. People infer social status by observing how others respond: who is deferred to, who receives attention,

who commands coordination Berger et al. [1972]. These collective reactions visibly structure social rank, making power relationships clear and predictable. By comparison, inferences about beliefs and intentions remain noisy, unstable, and prone to error. This asymmetry suggests that human social cognition is fundamentally grounded in tracking power dynamics through group behavior.

2.4 Strategic Social Interaction and Negotiation

Strategic interaction is fundamental to real-world social behaviour, yet has largely been overlooked in traditional psychology. Classical paradigms of social cognition typically centre on isolated, dyadic tasks—such as emotion recognition or false-belief attribution—neglecting the inherently multi-agent, strategic nature of human interactions. In contrast, behavioural economics, negotiation research, and game theory have long emphasized that social behaviour unfolds in strategic contexts, where individuals must anticipate others' responses, assess incentives, and dynamically navigate shifting coalitions and power relations.

Behavioural game theory has consistently demonstrated that human decisions are sensitive to reputation, fairness norms, and perceived strategic risks. Seminal studies using the Ultimatum GameGüth et al. [1982], Trust GameBerg et al. [1995], and repeated Prisoner's DilemmaAxelrod and Hamilton [1981] show that individuals do not merely maximize utility. Instead, they actively infer social contingencies, retaliate against perceived unfairness, and adapt strategies based on the inferred intentions and interaction histories of others.

Similarly, negotiation research has revealed how individuals strategically manage alliances, signal intentions, and adjust tactics to optimize outcomes. Empirical work highlights the critical roles of framing, anchoring effects, and information asymmetries in shaping negotiation successThompson [1990b], Bazerman et al. [2000]. These scenarios represent ecologically valid tests of social inference, offering far greater complexity and realism than standard theory-of-mind assessments.

Collectively, these literatures indicate that social cognition is fundamentally about strategic interaction—the capacity to shape, anticipate, and influence social dynamics rather than merely infer mental states.

3 The Mechanistic and Conceptual Flaws in Theory of Mind

3.1 Conceptual Ambiguity: A Construct Without Clear Boundaries

The concept of Theory of Mind (ToM) Premack and Woodruff [1978], Wimmer and Perner [1983], Baron-Cohen et al. [1985], Wellman et al. [2001] originates not from a clear mechanistic insight, but from an intuitive ideal: that humans are uniquely capable of "understanding others" or "feeling what others feel." This ideal—rooted in cultural narratives of empathy and interpersonal insight—was retrofitted into a cognitive framework that posits a dedicated capacity for inferring mental states. In its most extreme interpretation, this led to popular claims of an evolved "mindreading module," and fueled enthusiasm around neural constructs like the mirror neuron system Di Pellegrino et al. [1992]. Yet these mechanistic proposals have remained speculative at best, and many of the initial empirical claims (e.g., mirror neuron-driven simulation) have failed to replicate reliably.

ToM has since expanded into an increasingly heterogeneous label, encompassing everything from gaze following and false belief tasks to simulation, verbal reasoning, and emotional inference. These behaviors differ not only in complexity and developmental profile, but also in underlying mechanisms. The common practice of treating successful social prediction as evidence for ToM—regardless of whether it is based on memory, association, imitation, or learned roles—has rendered the construct circular. Without functional decomposition or mechanistic specificity, ToM risks becoming an unfalsifiable post-hoc attribution rather than a testable theory of social cognition.

3.2 Methodological and Empirical Baseline Failures: What Are We Really Testing?

Across decades of research, Theory of Mind has been operationalized through a narrow set of behavioral paradigms—most notably false-belief reasoning and gaze-following—assuming that successful performance directly reflects the ability to infer others' mental states. In fact, these tasks capture surface behavior rather than the underlying process of mental-state reasoning. Performance in false-belief tasks Wimmer and Perner [1983], Baron-Cohen et al. [1985], Wellman et al. [2001] may

instead reflect task familiarity, linguistic scaffolding, or scripted recall, while gaze-following Scaife and Bruner [1975], Baron-Cohen [1997], Meltzoff and Brooks [2008] can arise from attentional alignment or low-level sensitivity to social cues—none of which require representing another agent's beliefs or goals.

Empirically, these methodological limitations manifest as consistent baseline failures in human social inference:

- **Lie detection as the most natural false-belief test:** A lie is, by definition, an attempt to induce a false belief in another person. If humans could reliably infer others' beliefs, they should easily recognize such deceptions. Yet meta-analyses show people correctly identify only 47% of lies and 61% of truths (approximately 54% overall) Bond Jr and DePaulo [2006]. Even in this most natural false-belief scenario, performance remains at chance level—indistinguishable from random guessing—and thus offers no evidence for a specialized ability to infer others' false beliefs.
- **Even basic affect recognition is near-chance:** Even without inferring hidden beliefs, recognizing visible emotion should be straightforward if humans possess stable social perception. Yet cross-cultural studies report only 58–64% accuracy in labeling "universal" facial expressions Elfenbein and Ambady [2002], and dynamic studies show that faces alone hover near chance (50%), improving only when context or body cues are added Aviezer et al. [2012]. Let alone in real-world interaction, where most emotional expressions are subtle, short-lived, and context-dependent—making accurate recognition even less plausible.

Together, these findings demonstrate that what is taken as evidence for Theory of Mind is, in fact, evidence of its absence. The construct's core behavioral tests collapse at the empirical baseline: humans are not reliable mindreaders. Social understanding instead arises from **pattern matching over noisy social signals**, not from a dedicated cognitive module.

3.3 Mechanistic Confusion: Memory, Pattern, and the Illusion of a Social Module

Despite its popularity, Theory of Mind remains conceptually vague and mechanistically undefined, often invoked as a quasi-magical capacity for "understanding others' minds" while conflating diverse processes under one label.

Empirically, humans perform poorly on tasks that should reflect genuine social inference: in lie detection, accuracy hovers near chance (54%) Bond Jr and DePaulo [2006], and in daily life people routinely misread or overinterpret others while believing themselves accurate. These observations suggest that social understanding does not arise from direct access to others' beliefs, but from constructing plausible interpretations through **pattern matching over noisy interactional signals**.

From this perspective, what has been described as "Theory of Mind" is better understood as a general-purpose process of **social inference via pattern matching over noisy signals**, supported by three core mechanisms (Fig. 2):

- **Contextual inference:** People use cues from the immediate interaction—tone, timing, emotion, attention—to activate relevant social memories and judge what others are feeling or trying to do.
- **Interactional memory:** People recall similar social situations they have experienced before and use those memories to anticipate what is likely to happen next.
- **Patterned associations:** People rely on familiar social scripts and roles—like routines, hierarchies, or institutional contexts—and use those patterns, stored through repeated experience, to interpret what is happening and what usually follows.

In this view, social reasoning is not the output of a specialized "mindreading module," but the product of accumulated experience, memory, and ecological pattern recognition. This interpretation is empirically supported by a wide range of psychological findings. Studies have shown that episodic and associative memory systems are strongly implicated in social tasks: people remember not just facts, but who said what, in what tone, under what circumstances—and use that information to adjust their expectations and responses toward others in future interactions Hastie and Kumar [1979], Flavell and Miller [1998], Todorov et al. [2007].

In this framing, what is traditionally called 'Theory of Mind' is better understood as a structured process of **social inference through pattern matching over noisy social input**, integrating memory, context, and social patterns to infer others' states in real time.

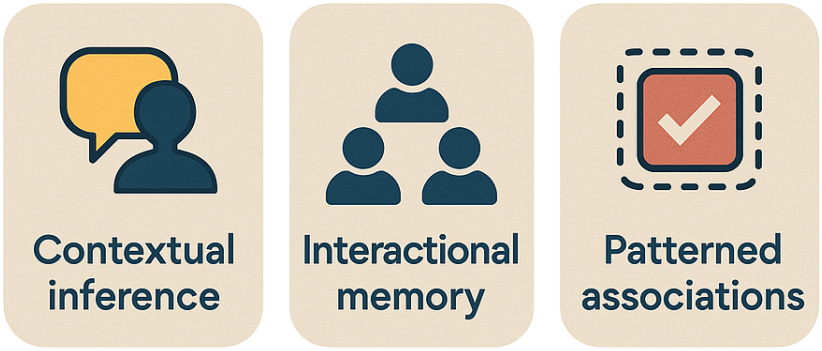

Figure 2: ToM-like social inference can be understood as pattern matching over noisy social signals, instantiated through three memory-based mechanisms: contextual inference, interactional memory, and patterned associations, rather than a dedicated mindreading module.

3.4 The Social Blind Spot: Goal, Power, and Asymmetry

Most theories of mind focus on understanding others' beliefs and intentions, but real-world social interaction is rarely so neutral. Social life is fundamentally goal-directed: people act to acquire opportunities, build alliances, and compete for influence. And in nearly all such situations, power is not distributed equally. In fact, power is almost never equal—and often cannot be.

This structural asymmetry is not a background variable—it defines the logic of interaction. Who can speak freely, who must defer, who gets to make demands or walk away—these are not matters of belief inference, but of position. "Understanding others" may help, but only insofar as it informs action within an uneven landscape of leverage, constraint, and expectation.

ToM-based frameworks largely overlook this. They assume symmetric agents mutually inferring one another's minds, as if power played no role in social cognition. But in reality—and in many nonhuman species—effective social behavior depends not on reading minds in the abstract, but on recognizing one's position and acting accordingly Waal [2007].

4 Status Over Beliefs: Rethinking the Order of Social Inference

4.1 Power as the Basis of Coordination in Social Animals

Theory of Mind—the ability to attribute beliefs, desires, and intentions to others—is often considered a uniquely human capacity. This view is largely shaped by the difficulty of demonstrating belief attribution in nonhuman animals, where experimental evidence remains limited and inconclusive. As a result, ToM has come to be seen not only as a mark of human uniqueness, but as the presumed foundation of social cognition. Yet across a wide range of social species, we observe stable, strategic coordination without compelling signs of mental state inference. Social intelligence, in these cases, appears to rely on other foundations.

In particular, *recognizing status* and *navigating power dynamics* involve social patterns that are directly observable at the behavioral level—such as who defers to whom, who initiates actions, and who receives collective attention. These dynamics are stable, recurrent, and cognitively accessible, providing a reliable basis for social coordination—without requiring access to others' internal beliefs or intentions.

Across a wide range of social species, hierarchical structures are not anomalies—they are functional necessities. From chimpanzees and wolves to lions and hyenas, steep dominance hierarchies govern access to food, mating, and group movement. High-ranking individuals coordinate actions, mediate conflicts, and regulate interactions through strength or alliance. Even in species with more tolerant

dynamics—such as orcas or bonobos—status still shapes behavior. Post-reproductive orca matriarchs lead migrations based on ecological memory, while high-ranking bonobo females influence social decisions and control sexual access.

Rank differences serve as an organizing principle that supports coordination, reduces ambiguity, and stabilizes collective behavior. Without such structures, groups risk leadership breakdown, movement disorder, and conflict over limited resources. Hierarchies—whether steep or shallow—clarify roles, reduce friction, and anchor social expectations.

4.2 Power Over Belief in Chimpanzee Social Inference

Chimpanzees—our closest living relatives—have long occupied a central role in research on Theory of Mind Premack and Woodruff [1978], Call and Tomasello [2008]. Their genetic proximity, social complexity, and behavioral flexibility make them ideal candidates for investigating the origins of mental state attribution . Indeed, no nonhuman species has been tested more extensively for evidence of belief, intention, or perspective inference Hare et al. [2000, 2001], Krupenye et al. [2016], Call et al. [2004].

Yet decades of experimentation have yielded equivocal results. Despite extensive methodological innovation, the evidence for belief attribution in chimpanzees remains fragmentary and often disputed. This persistent ambiguity invites a reframing of the question itself. What if mindreading is not the primary substrate of social intelligence—even in species as cognitively advanced as chimpanzees?

In contrast to the elusive signs of Theory of Mind, chimpanzees display remarkable clarity in a different domain: *power* Waal [2007]. Rank and dominance shape virtually all dimensions of chimpanzee social life. Their behaviors reflect not abstract belief attribution, but strategic engagement with hierarchy: coalition-building, affiliative grooming, and rank-contingent deference.

These behaviors are not peripheral—they are the functional architecture of chimpanzee social cognition. Navigating power dynamics enables individuals to secure allies, gain mating access, and reduce conflict over limited resources. In this ecological and social context, cognitive priority is given not to hidden mental states, but to observable social structure. Chimpanzee intelligence begins not with belief, but with rank dynamics.

4.3 The Limits of Mindreading in Human Social Inference

Despite widespread belief in the human capacity for Theory of Mind, most people routinely struggle to understand one another Epley et al. [2004]. Social life is marked by uncertainty, misinterpretation, and doubt: "What did they mean by that?", "Why would they do this?", "Are they being sincere?" These are not fringe cases—they are the norm of human interaction.

At the root of this difficulty lies a basic constraint: mental states are not directly observable. People say one thing and do another. They conceal, deflect, or mask intentions Ekman and Friesen [1969]. Moreover, individuals frequently lack access to their own beliefs and motivations Nisbett and Wilson [1977]. This self-opacity undermines the notion that social inference is a matter of accurately attributing internal states to others. In ambiguous situations, people tend to over-interpret or hallucinate intentions, attributing goals or hidden motives where none exist Epley et al. [2004]. Such tendencies further compromise the reliability of mental state inference.

The human mind is not a transparent system—it is fragmented, unstable, and often inaccessible even to the individual. Social inference, rather than operating through a general-purpose mindreading faculty, relies on sparse and context-bound cues: memory of past behavior, observed inconsistencies, emotional tone, or situational framing. These inferences are not full reconstructions of others' internal states, but partial, heuristic approximations shaped by what is visible or recallable Gigerenzer and Goldstein [1996]. As a result, human social inference is inherently limited, easily biased, and vulnerable to misjudgment.

4.4 Power Over Intention in Human Social Interaction

Human social interaction is fundamentally asymmetrical. Most encounters—whether at work, in families, or online—involve some degree of power imbalance. Navigating these asymmetries is

not optional; it is a core cognitive skill for maintaining cooperation, avoiding conflict, and securing advantage.

From corporate hierarchies to social media platforms, modern life is saturated with status competition Hyman [1942]. We celebrate celebrities, follow influencers, and defer to executives—not merely out of habit, but because humans are acutely attuned to social rank. People infer status by tracking whose opinions shape group decisions, whose preferences are prioritized, and who becomes the reference point in conversation Keltner et al. [2003].

This sensitivity reflects a deeper reality: most social environments are political. Power is negotiated, enforced, and performed through everyday behavior. Who speaks first, who interrupts, who gets credit—these are not random. They reveal an ongoing game of influence and positioning. Far from being a transparent exchange of intentions, human interaction is structured by strategic alignment—who commands attention, whose views carry weight, and how others adjust in response.

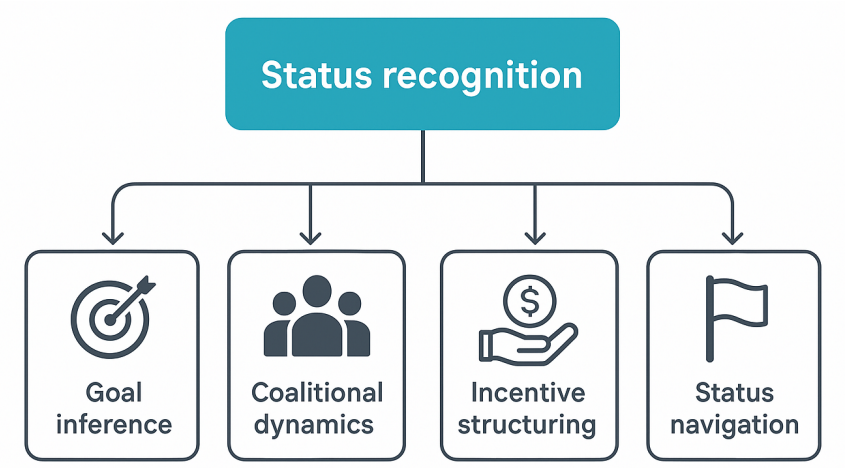

Figure 3: **A functional framework for social cognition centered on status recognition.** We propose that social cognition is fundamentally grounded in *status recognition* and the ability to *navigate power asymmetries*, rather than in mindreading or empathy. This core capacity supports four key behavioral competencies: goal inference, coalitional dynamics, Incentive structuring, and status navigation. Together, these action-oriented skills equip individuals to navigate social interactions in the real world, where power asymmetries are the norm rather than the exception.

5 Position Dynamics as the Core Architecture of Social Cognition

5.1 Relative Position as the Unified Backbone of Position Dynamics

Across social contexts—whether competition, cooperation, or negotiation—interaction is fundamentally shaped by **relative position**. Who holds leverage, who defers, and whose preferences carry weight determine how information is exchanged, how coordination unfolds, and which outcomes emerge. Rather than being a background condition, relative position forms the structural backbone of social cognition: it defines what each individual can do, expect, or demand within a social field.

We therefore propose that social cognition should not be modeled as belief attribution, but as strategic action embedded within asymmetric structures. At the core of this framework are two complementary dimensions:

- **Power** — the actual relative position in the system, determining one's true capacity to influence outcomes.
- **Status** — the perceived relative position in the system, reflecting how others collectively see and treat that capacity.

These concepts are observable, measurable, and stable enough to directly shape interaction dynamics and, in turn, influence outcomes within the system.

Domain	Representative behaviors
Coordination and Alignment	Leadership, delegation, mediation, group conformity
Attention and Visibility Management	Success, reputation signaling, social comparison, self-esteem
Access and Boundary Regulation	Inclusion and exclusion dynamics, social stratification, discrimination, gatekeeping
Norm and Value Stabilization	Group identification, labeling, virtue signaling, value affirmation
Influence and Contingency Management	Influence, persuasion, manipulation, bullying

Table 1: **Relative position forms the unified backbone of everyday social behavior**—from interpersonal influence to group coordination. The following table lists representative behavioral mechanisms across these domains. While many appear coercive or negative, they reflect the fact that social cooperation is not spontaneous but actively maintained through ongoing negotiation and managed friction— a tension that also explains why social interaction so often feels exhausting, frustrating, or emotionally costly. *What we call positive sociality—trust, warmth, harmony—tends to be the outcome of these dynamics rather than the strategies themselves.*

5.2 Power Navigation as the Strategic Dynamics of Position Dynamics

Any strategic social behavior begins with identifying *where power resides*—in other words, engaging in **status recognition**. This involves drawing on direct information, others' reactions, and the surrounding social role structure to determine one's position within the system. Through this process, status recognition clarifies an individual's starting point, relative position, and available bargaining power within the social structure.

From this recognition process arise four functional capacities that shape real-world social behavior:

- **Goal inference** — inferring others' objectives from available social information and interaction history, enabling agents to influence outcomes.
- **Coalitional dynamics** — selecting allies, distancing from rivals, and navigating shifting group structures to maintain or shift balance of power.
- **Incentive structuring** — modulating others' behaviour through access, reward, and reputational leverage.
- **Status navigation** — advancing one's social position via visibility, alliance, and strategic association.

These capacities operate without the need for belief attribution or mental-state simulation. Instead, they rely on recognizing explicit social structures and acting within them to directly shape outcomes.

6 From Perception to Action in Position Dynamics

6.1 Status Perception as the Perceptual Basis of Position Dynamics

To navigate power dynamics, individuals must first recognize them. What is often labeled as "status" is, at its core, the **perceived relative position in the system**—a collectively held judgment about an individual's capacity to influence, reflected in how others see and treat them. Understanding this perceived position is essential for navigating asymmetry: it defines one's starting point within the social structure, clarifies available leverage, and sets the boundaries of bargaining power—and serves as the foundation for all strategic social behavior.

- **Status cue detection in humans** — From brief encounters, individuals can quickly infer who holds power, commands deference, and influences group decisions, often using minimal signals such as posture, tone, gaze, or spatial positioning Hall et al. [2005], Foulsham et al. [2010].
- **Early developmental emergence** — Infants prefer leaders, winners, or those deferred to by others, and toddlers adjust their behavior based on perceived dominance **?**Anderson and Kilduff [2009a].
- **Neural dynamics of hierarchy evaluation** — Activity in regions including the amygdala, vmPFC, and STS covaries with social rank and evaluative context, suggesting distributed neural processes that encode relative position and status cues. Such effects likely emerge from large-scale network coordination rather than localized modules Zink et al. [2008], Koski et al. [2015], Mattan et al. [2017].
- **Computational detection in AI systems** — Machine learning models can infer social status from interaction behavior, using features like speaking time, turn-taking asymmetry, or interruption frequency Sanchez-Cortes et al. [2011, 2013], Pentland [2010]. Modern deep learning architectures can learn such cues end-to-end, confirming that status can be grounded in observable group interaction patterns.

In real-world settings, humans detect status through two complementary channels: one based on **visible proxies**, and another grounded in **social interaction dynamics**.

- **Proxy-based recognition.** Status is often associated with **simple public indicators that reveal relative position**—wealth, titles, institutional rank, or follower count. These cues serve as shared reference points that allow individuals to locate others within a **social hierarchy** without extended reasoning or interaction. They function as *cognitive shortcuts*: compact summaries of prior success or reputation that enable rapid coordination. Yet their simplicity also makes them easily **manufactured, gamed, or overvalued**. Individuals often end up competing over these **proxy signals**—metrics that symbolize influence rather than constitute it—blurring the distinction between genuine social impact and its visible display.
- **Context-based recognition.** Status can also be inferred from **interactional patterns that reveal relative position**. Through ongoing exchanges—who initiates, who defers, who commands attention or receives support—individuals extract structured cues about where each participant stands within the group. Such dynamics make the social hierarchy legible in real time, even in the absence of explicit labels or formal metrics.

Together, these two channels—one symbolic and one enacted—allow humans to map and navigate social structure with remarkable efficiency. Status recognition thus depends not on inferring hidden intentions, but on perceiving and interpreting **publicly expressed asymmetries of position and influence**.

6.2 Strategic Pathways for Navigating Power Dynamics

Recognizing status is only the first step in navigating social life. True social intelligence lies not in passively perceiving power asymmetries, but in actively responding to them—leveraging one's position, anticipating others' actions, and strategically influencing outcomes. Across real-world interaction, success depends less on inferring what others believe, and more on predicting what they want, identifying potential allies, navigating status dynamics, and using incentives to shape behavior.

6.2.1 Goal Inference

Conceptual overview. In real life, we rarely know what others are thinking—and most of the time, we don't need to. What shapes social outcomes is not mental state inference, but **goal inference**: reconstructing what others are trying to achieve from fragmentary information distributed across context, history, and experience. Recognizing these goals allows us to anticipate actions, coordinate more effectively, and respond strategically. Social behavior is driven by goals, not hidden beliefs—and understanding those goals provides a practical advantage in shaping interaction outcomes.

Empirical support. Field studies of negotiation and strategic interaction show that understanding others' goals serves primarily as a predictive tool for shaping outcomes. By recognizing counterparts' interests and anticipated moves, individuals adjust offers, sequence concessions, and redefine payoffs to steer the interaction toward favorable equilibria Thompson [1990a], Bazerman et al. [2000].

6.2.2 Coalitional Dynamics

Conceptual overview. In real social environments, power is uneven and challenges are distributed across domains. No individual can navigate all situations alone, making cooperation and specialization essential. Strategic alliances extend one's reach, share risk, and create leverage in complex environments. Well-structured coalitions can shift power balances, buffer against exclusion, and secure access to otherwise unattainable resources.

Empirical support. Field studies of social behavior show that individuals often form and dissolve coalitions to navigate power asymmetries within their ecological context. By coordinating with allies, they amplify influence, deter rivals, and secure access to shared resources. Negotiation and organizational research demonstrate how such alliance dynamics—whether explicit or tacit—shape outcomes by redistributing leverage across social networks Lax and Sebenius [1987], Bazerman et al. [2000].

6.2.3 Incentive Structuring

Conceptual overview. In real social interaction, influence works through the strategic reshaping of incentives—making some actions more rewarding and others less attractive. This may involve granting access to valued resources, creating opportunities, or modulating reputational signals. By adjusting the underlying payoff structure, individuals can steer others' behavior and achieve desired outcomes.

Empirical support. Field studies of social behavior show that individuals often shape outcomes by structuring incentives within their ecological context. By controlling access, rewards, and visibility, they reshape interaction patterns so that certain responses become more advantageous than others. Negotiation research demonstrates how such strategies—offering benefits, creating dependencies, or withholding resources—effectively engineer the choice landscape Lax and Sebenius [1987], Raiffa [1985].

6.2.4 Status Navigation

Conceptual overview. Status plays a central role in shaping social behavior. Beyond recognizing it, individuals learn to navigate it—leveraging their social position to guide strategic action. This involves aligning with authority when advantageous and managing reputation and impression to sustain trust and influence.

Empirical support. Field studies of social behavior show that individuals navigate social environments through two complementary mechanisms: sustaining reputation across interactions and managing impressions in real time. Reputation-based strategies stabilize long-term standing within networks, as individuals engage in prosocial acts to accumulate a favorable image that functions as social currency Milinski et al. [2002]. Impression-based strategies operate within immediate encounters, where people adjust self-presentation, visibility, and deference cues to regulate perceived status Goffman [2023].

7 Theoretical Implications

7.1 Social Skills Emerge Under Power Asymmetry

Social skills are not uniformly required across all contexts. In real-world interactions, differences in power, status, or access are not anomalies—they are the norm. These asymmetries are not merely background features; they define the very conditions under which social behavior unfolds.

Crucially, it is those with less power who must exhibit the highest levels of social acuity. They are required to read intentions, anticipate shifts, manage impressions, and avoid missteps—often

with minimal margin for error. In asymmetrical interactions, the cost of getting it wrong falls disproportionately on the powerless.

By contrast, individuals in positions of power face far fewer demands. Their structural position insulates them from the costs of failure while granting access to resources, alliances, and institutional leverage that allow them to shape interactions proactively. Social navigation is no longer a challenge—it becomes a landscape already tilted in their favor.

Social skill, then, is not a universally deployed capacity, but a high-stakes adaptation to structural inequality. This perspective reframes social cognition not as a symmetric interaction between equals, but as a strategic adaptation to asymmetrical social structures. It challenges prevailing accounts that treat empathy or mindreading as the primary mode of social understanding, and instead places status recognition and power navigation at the center of intelligent social behavior.

7.2 Power and Empathy: A False Dichotomy

Power is often misunderstood—as brute force, dominance, or coercion—and dismissed as something primitive or immoral. But real social power is strategic. It's about knowing others' goals, building alliances, avoiding threats, and playing the long game. Even among chimpanzees, those who rely only on aggression are often overthrown. The ones who stay on top are usually the best at managing relationships Waal [2007].

This kind of power navigation doesn't exclude empathy—it can include it. Understanding others' emotions, predicting their reactions, even showing care or deference, can all serve strategic ends. Emotional sensitivity is not the opposite of power; it can be one of its tools. What matters is not whether an agent "feels with others," but whether that feeling helps navigate risk, maintain alliances, or defuse conflict. From this view, empathy is not a foundational module of social cognition, but a flexible component embedded in a broader system of strategic social inference.

7.3 The Degree of Social Inference and Its Robustness

Humans are generally able to perceive others' emotional states—particularly when those states are intense, immediate, and externally expressed through facial expressions, vocal tone, or posture. However, this low-level perceptual alignment differs fundamentally from higher-order mental state inference. Attributing beliefs, intentions, or internal motivations requires reasoning about internal targets that are often ambiguous, unstable, and not directly accessible—making even coarse-grained estimates prone to error.

In naturalistic social settings, individuals frequently behave inconsistently, express beliefs they do not genuinely endorse, or act without explicit awareness of their own mental states. Such variability is not incidental but widespread, posing a fundamental challenge to any model that assumes stable and introspectively accessible mental content. Indeed, many individuals struggle to clearly articulate what they themselves believe—let alone infer the beliefs of others with reliability. As a result, high-level social inference often operates under conditions of uncertainty, variability, and limited reliability.

7.4 Compensatory Mechanisms for Unreliable Mindreading

If human mindreading were robust, social coordination would rely primarily on direct intention inference. Yet the evidence suggests the opposite: even basic affect recognition is noisy and unstable across contexts. To manage the uncertainty produced by this fallible inference system, humans developed compensatory mechanisms that externalize and distribute social cognition across the group.

Recommendation, gossip, trust, and reputation systems all serve this compensatory function. They reduce the cognitive burden of direct inference by outsourcing social evaluation to the network—transforming individual cognition into a collective process. Reputation and prestige act as shorthand signals for reliability; gossip functions as a decentralized error-correction loop; trust condenses uncertain expectations into actionable commitments.

The richness of these social mechanisms thus reflects not the superiority of human mindreading, but its limitations. Large-scale cooperation is made possible not by transparent access to others'

minds, but by a distributed ecology of compensatory systems that stabilize uncertainty through communication, signaling, and shared history.

7.5 Social Inference as Experience-Dependent, Not Fully Innate

If social inference is grounded in memory-based mechanisms, then social competence should emerge through the accumulation and structuring of prior interactions, rather than as a fully formed capacity. Individuals interpret others' goals and intentions not by invoking a dedicated "mindreading module," but by drawing on patterns learned through past social encounters.

Over time, repeated success, elevated status, and reinforcement from peers may further stabilize these processes, generating feedback loops that enhance strategic fluency. This view reframes social cognition not as a fixed mental faculty, but as a dynamic, experience-dependent process shaped by interaction and memory.

7.6 Social Understanding Is Shaped by Group Structure, Not Just Individuals

Human interaction is often studied as dyadic—an isolated exchange between two individuals. Yet in reality, every such interaction is embedded within a broader social matrix. Status, alliances, gossip, and shared history do not merely provide cues—they actively shape interpretation, behavior, and strategy.

Social inference, then, is not merely about reading minds, but about navigating a structured landscape of power and group dynamics. Frameworks that overlook these collective constraints—such as classic Theory of Mind—fail to capture how social behavior is coordinated, regulated, and amplified beyond the dyad.

7.7 The Misplaced Paradigm of Bayesian Social Inference

Much of cognitive psychology has treated social understanding—whether mental state inference, empathy, or person perception—as a form of Bayesian inference. The appeal of this framework lies in its mathematical elegance more than in its empirical adequacy.

Yet in practice, these capacities are noisy, error-prone, and context-dependent: people frequently misread motives, overextend empathy, and mistake coincidence for intention. Such variability reveals that social cognition is not governed by a unified inferential engine but by pattern matching over noisy interactional signals.

Rather than computing beliefs or intentions, humans learn and adjust through repeated exposure to interactional patterns—an adaptive, approximate process that achieves robustness without formal optimality.

8 Future Work

Our work reframes social cognition as a form of strategic navigation within systems of relative position, rather than as dyadic mindreading. It emphasizes how social understanding emerges from the ability to interpret, predict, and act within networks of incentive, influence, and coordination.

Building on this view, future research should move beyond simplified, belief-centric models and toward a richer account of how individuals act under conditions of status, incentive, and strategic uncertainty.

Key directions include modeling how people recognize social rank, predict others' goals, identify potential allies, and adaptively respond to positional asymmetries. These behaviors are not arbitrary—they reflect structured patterns of influence, response, and coordination within social groups. Progress in this direction will require experimental settings that capture real-world complexity: multiparty interaction, role-based asymmetry, and dynamic incentive landscapes.

9 Conclusion

Social cognition is often defined as the ability to infer other minds. Yet behaviors attributed to Theory of Mind are frequently error-prone, context-sensitive, and inconsistent across situations, raising doubts about the existence of a dedicated mindreading module. Instead, these inferences likely reflect memory-based social inference.

In contrast, status recognition and strategic action in asymmetrical contexts are consistently observed across species. These behaviors don't rely on imagining others' thoughts—they emerge from navigating group hierarchies: recognizing others' goals, forming alliances, using incentives and resources to shift outcomes, and advancing one's own position.

Reframing social cognition in this way shifts the emphasis: from interpreting invisible minds to navigating visible structures. Social intelligence is recast not as a mutual exchange of internal states, but as a practical competence for operating under unequal conditions. This perspective provides a more grounded, generalizable foundation for scientific inquiry, real-world application, and computational modeling.

Declaration of LLM Usage

The authors used OpenAI's ChatGPT to assist in refining phrasing and improving clarity. All theoretical arguments and interpretations are original and authored by the researchers.

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