Cognitive Biases in Clinical Decision-Making: Implications for Psychological Practice

Sesgos Cognitivos en la Toma de Decisiones Clínicas: Implicaciones para la Práctica Psicológica

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Abstract:

Background/Objectives: Clinical psychologists are routinely required to make complex decisions under uncertainty, often with incomplete information and within emotionally and institutionally demanding contexts. A substantial body of evidence from cognitive psychology demonstrates that these decisions are vulnerable to systematic distortions known as cognitive biases. Methods: Theoretical and empirical literature was reviewed to identify key distortions, including confirmation bias, availability heuristic, anchoring, overconfidence and the illusion of validity. A narrative synthesis approach was adopted, focusing on literature involving psychological professionals in applied contexts. Special attention is given to the cumulative dynamics of bias cascade and snowball effects, as well as the influence of contextual variables such as workload, cultural mismatch and documentation practices. Results: Different reasoning frameworks rational-analytic, intuitive-humanistic and hypothetico-deductive exhibit varying vulnerability to bias. Ethical and epistemological risks include compromised patient autonomy, unjust credibility judgments and institutional blind spots. Conclusions: Evidence-based mitigation strategies are highlighted, such as structured decision protocols, clinical examples to illustrate bias manifestations**,** metacognitive awareness training, collaborative frameworks and outcome-driven feedback.

Keywords:

cognitive process, professional judgment, clinical psychology, decision support tools, review

Resumen:

Antecedentes/Objetivos: Los psicólogos clínicos se ven rutinariamente requeridos a tomar decisiones complejas bajo incertidumbre, a menudo con información incompleta y en contextos con alta carga emocional e institucional. Un cuerpo sustancial de evidencia proveniente de la psicología cognitiva demuestra que estas decisiones son vulnerables a distorsiones sistemáticas conocidas como sesgos cognitivos. Métodos: Se revisó la literatura teórica y empírica para identificar las principales distorsiones, incluyendo el sesgo de confirmación, la heurística de disponibilidad, el anclaje, el exceso de confianza y la ilusión de validez. Se adoptó un enfoque de síntesis narrativa, con énfasis en estudios aplicados en psicología clínica. Se presta especial atención a las dinámicas acumulativas de la cascada de sesgos y los efectos en bola de nieve, así como a la influencia de variables contextuales como la carga de trabajo, el desajuste cultural y las prácticas de documentación. Resultados: Diferentes marcos de razonamiento racional-analítico, intuitivo-humanista e hipotético-deductivo muestran una vulnerabilidad variable a los sesgos. Los riesgos éticos y epistemológicos incluyen la vulneración de la autonomía del paciente, juicios de credibilidad injustos y puntos ciegos institucionales. Conclusiones: Se destacan estrategias de mitigación basadas en evidencia, tales como protocolos estructurados de toma de decisiones, ejemplos clínicos para ilustrar los sesgos, entrenamiento en conciencia metacognitiva, marcos colaborativos y retroalimentación orientada a resultados.

Palabras Clave:

proceso cognitivo, juicio profesional, psicología clínica, herramientas de apoyo a la decisión, revisión

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INTRODUCTION

Clinical decision-making constitutes a central activity in psychological practice, demanding complex cognitive processes to interpret ambiguous information, assess client needs, formulate hypotheses and choose appropriate interventions. Ideally, these decisions are grounded in the integration of the best available research evidence, clinical expertise and client characteristics (APA, 2006). However, decades of research in cognitive science and clinical judgment have shown that decision-making processes are consistently affected by systematic errors cognitive biases that can compromise diagnostic accuracy, treatment planning and therapeutic outcomes (Avorn, 2018; Garb, 2005; Kahneman, 2011).

These biases are not random but represent predictable deviations from normative reasoning that arise from the inherent limitations of human cognition, particularly under conditions of uncertainty, time pressure, emotional salience and cognitive load (Kahneman, 2011; Tversky & Kahneman, 1974). In psychological practice, such conditions are not the exception but the norm. Clinicians often make high-stakes decisions during brief intake interviews, in moments of emotional reactivity, or when navigating institutional pressures such as documentation demands or caseload quotas. As a result, they become especially vulnerable to cognitive shortcuts or heuristics that, while efficient, introduce consistent errors in judgment. For example, a clinician may prematurely anchor on an initial diagnosis, overemphasize information that confirms their expectations (confirmation bias), or rely on recent salient cases (availability heuristic), resulting in flawed conceptualizations and misaligned interventions (Nickerson, 1998; Pfeiffer et al., 2000).

Importantly, cognitive bias is not limited to novice clinicians. Research consistently demonstrates that both novice and experienced psychologists exhibit biases, though in different ways. While novices may rely excessively on salient features or institutional cues, experienced clinicians may fall prey to overconfidence, diagnostic inertia, or theory-driven selectivity in evidence interpretation (Garb, 2005; Miller et al., 2015). For instance, a trainee might focus narrowly on dramatic symptoms that resemble a textbook case they recently studied (availability heuristic), whereas a seasoned therapist might dismiss new data that contradicts their favored conceptual model (confirmation or anchoring bias). Pfeiffer et al. (2000), in an experimental study with doctoral psychology students, found that participants were significantly more likely to pursue confirmatory lines of questioning when they had generated the diagnostic hypothesis themselves. Accountability instructions where participants knew they would need to justify their decisions did not reduce this bias, suggesting that even motivated, educated individuals are prone to biased reasoning in clinical contexts.

The consequences of cognitive bias in psychology extend far beyond academic interest. Misdiagnoses can lead to ineffective or harmful treatments, stigmatization, erosion of therapeutic alliance, client dropout and even judicial or institutional errors when psychological evaluations are used in forensic or administrative settings (Puente-López et al., 2024; Schottenbauer et al., 2007). In one such case, a clinician's early label of "oppositional defiant disorder" in an adolescent obscured a trauma history and resulted in punitive behavioral interventions, rather than trauma-informed care. This error persisted across settings due to copied documentation, exemplifying how biased decisions propagate systemically. Moreover, these errors are often compounded over time. Dror (2025) describes a "bias cascade" effect, whereby early cognitive distortions such as assumptions made during referral or intake shape the interpretation of all subsequent information, reinforcing the initial frame and reducing opportunities for correction. In multidisciplinary environments, this bias can snowball through documentation and team communication, leading to diagnostic entrenchment and systemic failures.

Despite these risks, traditional models of clinical training focus primarily on symptomatology, theoretical orientation and technique, with relatively little attention to the psychology of decision-making or the mechanisms by which reasoning can be systematically distorted (Schottenbauer et al., 2007). This is especially concerning given the extensive literature on bias mitigation available in fields such as medicine and behavioral economics literature that remains underutilized in clinical psychology curricula. The limited emphasis on metacognitive awareness, epistemic humility and structured reflection in clinical curricula leaves practitioners underprepared to detect and mitigate bias in their everyday work.

The present review aims to synthesize and critically examine the literature on cognitive biases in clinical psychology. It begins by describing the most relevant cognitive biases for psychological practice, including confirmation bias, overconfidence, availability heuristic, anchoring and the illusion of validity. It then explores the interaction between these biases and different models of decision-making rational-analytic, intuitive-humanistic and hypothetico-deductive highlighting how reasoning style can influence susceptibility to error (Banning, 2008; Kanat, 2023). Finally, the review offers empirically supported recommendations for mitigation, including structured decision aids, metacognitive training, feedback-informed treatment and collaborative decision-making frameworks.

METHOD

The present narrative literature review is designed to integrate theoretical models and empirical findings on cognitive bias in clinical psychology, rather than to provide an exhaustive systematic review. The review follows best-practice recommendations for rigorous narrative syntheses in applied health sciences (Arshed & Danson, 2015; Cronin et al., 2008; Ferrari, 2015; Petticrew & Roberts, 2006).

The guiding question was: How do specific cognitive biases influence clinical judgment, assessment, and treatment decision-making in clinical psychology, and what strategies have been proposed to mitigate these biases?

Literature searches were conducted in three major databases that index psychological and health sciences research: PsycINFO, PubMed/MEDLINE, and Scopus. The core search strategy combined terms for cognitive bias, decision-making, and clinical practice. A typical search string was:

("cognitive bias*" OR heuristic* OR "confirmation bias" OR "diagnostic overshadowing") AND ("clinical judgment" OR "clinical decision-making" OR "psychological assessment" OR "case formulation") AND ("clinical psycholog*" OR therapist* OR clinician*).

Search syntax and field tags (e.g., use of MeSH terms in PubMed) were adapted to each database. Peer-reviewed publications between 1995 and 2025 were considered. To minimise omission of influential work, backward and forward citation tracking was also performed using key sources on cognitive bias and clinical judgment (e.g., Garb, 1998, 2005; Kahneman, 2011; Nickerson, 1998; Tversky & Kahneman, 1973, 1974). Reference lists of included articles were manually screened to identify additional relevant studies.

Studies were eligible for inclusion if they:

1. Were peer-reviewed journal articles or scholarly books;
2. Examined mechanisms or consequences of cognitive bias or heuristic processing in clinical decision-making;
3. Focused on clinicians or clinical trainees in psychology, psychiatry, counselling, or allied mental health professions, or addressed decision-making frameworks directly applicable to such practitioners; and
4. Reported empirical data (experimental, quasi-experimental, observational, or meta-analytic) or presented theory-driven models with explicit implications for clinical practice.

Publications were included if written in English or Spanish and if they addressed at least one stage of the clinical reasoning process (e.g., assessment, diagnosis, risk estimation, case formulation, treatment planning). Excluded were studies conducted exclusively in non-clinical domains (e.g., business, finance, marketing) unless the underlying cognitive mechanisms were clearly transferable to clinical contexts, as well as dissertations, conference abstracts, editorials, commentaries, and non-scholarly essays.

Screening proceeded in two stages. First, titles and abstracts retrieved from the database searches were examined for relevance to cognitive bias in clinical psychology. Second, full texts of potentially eligible records were assessed against the inclusion and exclusion criteria. When the abstract screening left uncertainty about eligibility, the record was retained for full-text review to reduce the risk of excluding important contributions, in line with recommendations for transparent and reproducible narrative reviews (Cronin et al., 2008; Ferrari, 2015).

In addition to empirical studies, influential theoretical contributions on heuristics and biases and dual-process models of judgment (e.g., Kahneman, 2011; Tversky & Kahneman, 1974) were purposively included because of their foundational role in cognitive bias research and their extensive application to clinical decision-making. Likewise, sources addressing ethical and epistemic dimensions of bias (e.g., APA, 2006, 2017; Fricker, 2007; Puente-López et al., 2024) were incorporated given their direct relevance to the implications discussed in this review.

For each included source, data were extracted on: (a) the type of bias or heuristic examined (e.g., confirmation bias, anchoring, availability, overconfidence, illusion of validity); (b) the clinical task or decision context (e.g., diagnostic judgment, risk assessment, case formulation, treatment selection); (c) characteristics of the practitioner sample; (d) study design and level of evidence; and (e) main implications for assessment, diagnosis, treatment, and ethical practice. The findings were then organised into thematic domains, types of bias, models of clinical decision-making, consequences for clients and systems, and debiasing strategies, to facilitate narrative synthesis and highlight gaps relevant to clinical training and supervision.

On the basis of these procedures, the final narrative corpus comprised 21 theoretical and empirical sources directly addressing cognitive bias in clinical decision-making and its ethical implications, supplemented by four methodological works on narrative and systematic reviewing that guided the design and reporting of this review (Arshed & Danson, 2015; Cronin et al., 2008; Ferrari, 2015; Petticrew & Roberts, 2006). This structured narrative approach seeks to balance depth and conceptual integration with transparency about search, selection, and synthesis procedures, as recommended for

high-quality narrative reviews in the social and health sciences (Ferrari, 2015; Petticrew & Roberts, 2006).

RESULTS

Cognitive biases in psychological assessment and treatment planning are not merely residual flaws of novice clinicians but rather deeply embedded patterns of reasoning that arise from the structural properties of the human mind. In clinical psychology, where ambiguity is common and decisions often depend on subjective interpretation, the influence of bias is particularly pronounced. From intake to case formulation, from test interpretation to therapeutic evaluation, biases operate subtly yet persistently, shaping the entire trajectory of client care (Garb, 1998; Kahneman, 2011).

One of the key challenges in identifying cognitive biases in clinical settings is their implicit nature. Most clinicians are unaware that they are engaging in biased reasoning. In fact, research suggests that clinicians may be especially susceptible to the "bias blind spot" the tendency to perceive oneself as less biased than others (Pronin et al., 2002). This metacognitive limitation makes bias difficult to correct through introspection alone and necessitates structured reflection, supervision, or external feedback mechanisms to ensure accountability.

The expression of bias is shaped by both individual and systemic factors. On the individual level, the clinician's theoretical orientation, prior experience, confidence level, emotional reactions and cultural background all influence how they perceive and interpret clinical data (Garb, 2005). On the systemic level, institutional pressures such as productivity quotas, time constraints, risk aversion and documentation requirements create environments where heuristic-based reasoning becomes the default. As noted by Dror (2025), these contextual variables can amplify early interpretive biases into cascading errors that become increasingly resistant to correction, a phenomenon that he terms the "bias snowball."

The biases most commonly cited in the literature on clinical psychology include confirmation bias, availability heuristic, anchoring bias, overconfidence and the illusion of validity. While each operates through distinct cognitive mechanisms, they share a common effect: they skew information processing in a way that reinforces initial beliefs and suppresses alternative interpretations. Table 1 provides an overview of these main biases, their definitions and illustrative clinical examples. Below, each of these biases is explored in detail with reference to empirical findings and clinical implications.

Confirmation Bias

Confirmation bias is arguably the most widely documented and theoretically established cognitive bias in clinical decision-making. It refers to the tendency to seek out, prioritize and interpret information in a manner that confirms one's existing beliefs or hypotheses, while neglecting, minimizing, or avoiding contradictory evidence (Nickerson, 1998). In the context of clinical psychology, this bias can exert influence at every stage of the therapeutic process, from diagnostic assessment to treatment evaluation and is particularly dangerous due to its insidious nature and the sense of coherence it offers to the clinician's narrative understanding of the case (Garb, 2005).

Clinicians often form early hypotheses based on referral information, demographic cues or initial impressions during intake interviews. Once a tentative diagnosis is formulated, there is a strong tendency to interpret subsequent data through that diagnostic lens. For example, a clinician who suspects borderline personality disorder may give disproportionate weight to a client's reports of emotional lability and interpersonal instability while overlooking signs of chronic trauma or neurodevelopmental differences. This leads to selective attention and memory, two mechanisms through which confirmation bias reinforces itself over time (Kahneman, 2011).

Pfeiffer et al. (2000) conducted an experimental study demonstrating how confirmation bias operates even among trained clinicians. They asked psychology graduate students to generate diagnostic hypotheses and then evaluate clinical information. The results showed that participants who developed their own hypotheses rather than receiving them externally were significantly more likely to gather information that confirmed their initial impressions. Even when instructed that they would have to justify their decisions (i.e., under conditions of accountability), participants still favored confirmatory questions. This suggests that motivation to be accurate is insufficient to override cognitive bias when the structure of reasoning remains unchanged.

Table 1.

Cognitive Biases in Clinical Decision-Making and Their Clinical Manifestations.

Bias	Definition	Example
Confirmation Bias	Tendency to seek, prioritize or interpret information in ways that confirm one's initial hypotheses, while discounting contradictory evidence.	A clinical psychologist forms an early diagnosis and then focuses on findings that support it, such as noticing only the symptoms that fit her hypothesis and ignoring signs that point to a different disorder.
Availability Heuristic	Overestimating the likelihood of diagnoses or events that come readily to mind, often because they are recent, dramatic or emotionally salient.	After treating a rare and memorable case, a therapist perceives similar symptoms in a new client as indicative of the same uncommon diagnosis, when a more prevalent condition is actually more likely.

Bias	Definition	Example
Anchoring Bias	Being unduly influenced by initial information or first impressions, causing subsequent judgments to be "anchored" to that starting point.	A client arrives with a prior chart labeled "treatment-resistant." The new clinician, anchored by this label, interprets the client's hesitance in sessions as further evidence of resistance, hindering a fresh understanding of their difficulties.
Overconfidence	Excessive certainty in the accuracy of one's judgments or decisions, often without adequate feedback or evidence.	A psychologist feels sure of a complex diagnosis after a brief interview and proceeds with a treatment plan without consultation or considering alternatives only later discovering that key information was overlooked.
Illusion of Validity	The unfounded belief that a coherent, confident narrative must be true, despite lacking objective validation.	After constructing a compelling case formulation to explain a client's problems, a therapist remains convinced it is correct. Even when the client's progress stalls, the therapist insists on the same explanation, assuming that the narrative's internal logic guarantees its truth.

This bias also plays a role in treatment monitoring. Clinicians who are invested in a particular therapeutic model may interpret client progress in ways that support the model's effectiveness. For example, a therapist using a psychodynamic approach might frame a client's withdrawal as resistance rooted in unconscious conflict, while a CBT therapist might view the same behavior as avoidance linked to negative core beliefs. In both cases, the interpretation serves to reinforce the therapist's theoretical orientation, potentially at the expense of responsiveness to the client's actual needs (Schottenbauer et al., 2007). In more severe cases, confirmation bias can contribute to what Dror (2025) refers to as a "bias cascade", where early interpretive errors propagate through documentation, case conceptualization and institutional communication. Once a client is labeled in a particular way e.g., as "noncompliant" or "treatment resistant" subsequent providers may adopt this framework uncritically, reinforcing the original error and reducing opportunities for corrective insight.

Availability Heuristic and Anchoring Bias
The availability heuristic is a mental shortcut through which individuals estimate the probability or frequency of events based on how easily examples come to mind (Tversky & Kahneman, 1973). While this heuristic can be useful in everyday judgments, it introduces significant risks in clinical settings, where memorable or emotionally salient cases may unduly influence the clinician's perception of new clients. Anchoring bias, on the other hand, refers to the cognitive

tendency to rely too heavily on the first piece of information encountered the "anchor" when making decisions. Both biases have been extensively documented in cognitive psychology and are particularly relevant in diagnostic assessment and case formulation.

In clinical psychology, the availability heuristic manifests when recently encountered diagnoses or emotionally charged cases shape the clinician's interpretive framework. For example, a clinician who has just worked with a case of dissociative identity disorder may begin to perceive dissociative symptoms in new clients, even when such symptoms are better explained by trauma-related anxiety or attention-deficit processes. This is especially problematic in training environments or institutional settings where certain diagnoses are overrepresented. These biases can also impact the quality of the therapeutic alliance, especially when early impressions lead clinicians to make assumptions about client motivation, resistance, or compliance. For instance, if a client is initially described in documentation as "manipulative" or "non-compliant," this label may become anchored in the clinician's perception, influencing how they interpret future behaviors, often in ways that undermine empathy and responsiveness. As such, anchoring and availability biases are not merely technical errors, but can deeply influence the relational and ethical dimensions of therapy (Schottenbauer et al., 2007).

The cumulative effect of these biases reinforces the importance of ongoing bias monitoring, not as a one-time training exercise but as a continuous process embedded in supervision, team consultation and professional development. Tools such as structured clinical judgment (SCJ) frameworks, repeated assessments and formal feedback mechanisms can help recalibrate clinician perceptions over time and reduce the grip of salient but unrepresentative information.

Overconfidence and the Illusion of Validity
Overconfidence is a well-documented bias in both lay and professional judgment and it plays a significant role in clinical psychology. It refers to the tendency to overestimate the accuracy of one's knowledge, interpretations or predictions. In clinical contexts, overconfidence often manifests as excessive certainty in diagnostic impressions, therapeutic decisions or prognostic predictions, even when these are based on incomplete, ambiguous or non-representative data (Miller et al., 2015). Closely related is the illusion of validity the belief that a coherent and internally consistent narrative or formulation must be true, regardless of its empirical grounding (Kahneman, 2011).

Clinical decision-making often involves constructing case formulations that make sense of a client's presenting problems, developmental history, personality structure and

symptom profile. When these formulations are internally consistent and theoretically elegant, they tend to generate strong feelings of confidence, particularly if they align with the clinician's theoretical orientation or previous experience. However, research consistently shows that confidence is not a reliable proxy for accuracy. In a meta-analysis conducted by Miller et al. (2015), the correlation between confidence and diagnostic accuracy among mental health professionals was found to be modest at best and in some studies, even negative.

This illusion of accuracy can be particularly problematic in settings that encourage independent decision-making and valorize clinical intuition over structured reasoning. Garb (2005) highlights that experienced clinicians often place undue weight on case narratives that "feel right," even when those narratives lack objective support. For example, a therapist might confidently interpret a client's withdrawal as a sign of unresolved Oedipal conflict, despite more parsimonious explanations such as social anxiety or trauma avoidance. Once such a narrative is established, the clinician may become increasingly resistant to alternative perspectives or contrary evidence.

The illusion of validity is often reinforced in clinical settings by the lack of immediate feedback. Unlike in laboratory or medical environments where diagnostic accuracy can be tested against biological markers or lab results psychological outcomes are often delayed, multifactorial and ambiguous. Clients may not challenge erroneous interpretations directly and symptoms may fluctuate for reasons unrelated to the intervention. This allows faulty case conceptualizations to persist unchallenged, sustained by anecdotal observations and confirmation bias.

Moreover, overconfidence can undermine the collaborative spirit of therapy. Clients who sense that the clinician is overly invested in a specific narrative may feel unheard or misrepresented, leading to alliance ruptures and early dropout. In supervision, overconfident clinicians may be less receptive to feedback, reducing the effectiveness of corrective guidance. This is especially concerning in forensic, risk assessment or high-stakes clinical settings, where overconfidence in flawed judgments can have serious consequences for clients' legal status, custody or access to services (Dror, 2025; Puente-López et al., 2024).

Supervision and peer consultation are also critical in reducing overconfidence. Case presentations that emphasize uncertainty, competing formulations and diagnostic dilemmas can normalize intellectual humility and counteract the culture of confidence-as-competence. Finally, adopting feedback-informed treatment models, such as the Expected Treatment Response (ETR) framework proposed by Lutz et al. (2006), can help clinicians calibrate their confidence against empirical

outcomes, promoting a more realistic appraisal of intervention effectiveness.

Bias Cascade and Snowball Effects

While many cognitive biases in clinical psychology operate at the level of individual reasoning, recent theoretical developments have emphasized the cumulative and systemic nature of bias in clinical decision-making. One of the most significant contributions to this field is Dror's (2025) conceptualization of the bias cascade and the snowball effect, which describe how early cognitive distortions, once embedded in the clinical process, can propagate and amplify through subsequent stages of assessment, documentation, supervision and institutional response.

The bias cascade refers to the sequential unfolding of errors, where an initial misjudgment sets the interpretive frame for all future decisions regarding a case. For example, a minor behavioral observation noted during intake such as emotional reactivity may be interpreted through a particular lens (e.g., personality pathology) and then subtly guide the focus of interviews, the selection of assessment tools and the prioritization of treatment goals. This framing effect creates a cognitive inertia, where new information is assimilated into the pre-established schema rather than prompting reconsideration (Dror, 2025; Kahneman, 2011).

In practice, these cascades are often documented and institutionalized. Initial impressions are recorded in progress notes, supervision summaries or multidisciplinary reports, becoming part of the official clinical record. When other professionals review the file whether during handoff, team meetings or external evaluations they are exposed to this biased framing and may adopt it uncritically. As a result, what may have begun as a questionable inference becomes solidified as shared understanding, a phenomenon Schottenbauer et al. (2007) describe as "consensual reinforcement of conceptual rigidity."

The snowball effect builds on this dynamic by highlighting how biased decisions not only persist but accumulate. Over time, initial distortions may influence diagnostic conclusions, risk assessments and even legal outcomes, especially in high-stakes contexts such as forensic psychology, child protection or involuntary hospitalization. A client labeled early on as "treatment-resistant" may subsequently be seen as less cooperative, less credible or less deserving of therapeutic investment, regardless of their actual behavior. These characterizations are perpetuated in team discussions, influencing resource allocation and clinician attitudes (Dror, 2025; Puente-López et al., 2024).

Park et al. (2016) identify how these snowball effects manifest differently depending on the clinical decision-making model

adopted. In more paternalistic models (e.g., "doctor knows best"), the authority of the clinician is rarely questioned, making it more likely that early decisions go unchallenged. In contrast, shared decision-making models where client input is actively solicited and reviewed may create opportunities for bias interruption. However, even in collaborative frameworks, structural dynamics (such as power imbalances, documentation norms and cultural assumptions) can constrain corrective feedback and sustain the biased trajectory.

These cascades are often invisible to clinicians precisely because they unfold gradually and align with coherent narratives. The human mind tends to seek consistency and coherence over contradiction and ambiguity. Once an interpretive pattern is in place, clinicians are more likely to notice data that confirms it and ignore anomalies a process tightly linked to confirmation bias and the illusion of validity (Miller et al., 2015; Nickerson, 1998). This means that multiple biases can interact over time, reinforcing one another and increasing resistance to revision.

Importantly, these effects are not confined to individual clinicians. In institutions with high staff turnover, limited supervision or hierarchical team structures, biased cascades are more likely to remain unexamined. Documentation becomes the primary communication medium across shifts and departments, allowing unverified or stigmatizing formulations to persist indefinitely. In correctional settings, child welfare systems or public mental health agencies, such cascades may contribute to long-term patterns of systemic inequity (Avorn, 2018; Garb, 2005).

Interrupting bias cascades requires structural and epistemic interventions. At the individual level, clinicians should be trained to revisit and critically appraise their formulations at regular intervals, especially after key clinical events (e.g., deterioration, crisis or rupture). Structured case reviews that include "bias checkpoints" (i.e., deliberate pauses to question assumptions) or assign a team member to play "devil's advocate" can help surface inconsistencies. At the organizational level, transparent documentation practices, feedback systems and team-based formulations can diffuse interpretive authority and open space for revision (Kanat, 2023; Park et al., 2016).

Furthermore, the use of predictive analytic tools, such as the Expected Treatment Response (ETR) model (Lutz et al., 2006), may assist in identifying when a case is not progressing as anticipated, prompting reconsideration of the underlying assumptions. If client outcomes systematically deviate from what is expected based on intake profiles, clinicians are encouraged to reassess their conceptual model rather than attributing setbacks to client pathology or "resistance."

Models of clinical decision-making

Understanding how clinicians make decisions requires more than identifying the cognitive biases that affect judgment. It also involves examining the conceptual models through which decision-making is structured. Over the last four decades, several models of clinical reasoning have been proposed to describe how professionals integrate information, generate hypotheses and choose interventions. These models rational-analytic, intuitive-humanistic and hypothetico-deductive differ not only in cognitive strategy but also in their susceptibility to different biases and their compatibility with various forms of clinical training and institutional practice (Banning, 2008).

The Rational-Analytic Model
The rational-analytic model conceptualizes decision-making as a systematic, evidence-driven process akin to scientific hypothesis testing. It emphasizes objectivity, transparency and logical consistency, often relying on structured assessments, decision trees or algorithmic tools. Clinicians operating under this model are encouraged to apply diagnostic criteria rigorously, consider base rates and weigh competing hypotheses against empirical evidence (Lilienfeld et al., 2015).

While this model minimizes heuristic thinking and promotes accountability, it is cognitively demanding and often unrealistic in fast-paced or relationally complex settings. Banning (2008) notes that strict adherence to rational-analytic procedures can alienate clients if they feel the clinician is too mechanistic or detached. Furthermore, reliance on structured tools does not make clinicians immune to bias. For instance, anchoring can occur in how assessment tools are interpreted and confirmation bias may affect which tools are chosen based on initial impressions (Garb, 2005).

The Intuitive-Humanistic Model
This model emphasizes experiential knowledge, clinical intuition and empathic attunement. It is grounded in the therapeutic relationship and often associated with psychodynamic, humanistic and narrative approaches. Decision-making is guided less by algorithmic reasoning and more by the clinician's understanding of the client's lived experience, meaning-making processes and interpersonal dynamics (Kanat, 2023).

The intuitive-humanistic model is particularly valued in psychotherapy for its sensitivity to context and emotional nuance. However, it is also highly vulnerable to affective and interpersonal biases. Therapists may unconsciously project their own experiences onto clients, misinterpret resistance as hostility or attribute meaning to ambiguous material based on their theoretical framework. Schottenbauer et al. (2007) emphasize note that while integrative therapists often use this

model, their decisions are frequently idiosyncratic and under-specified, making them more difficult to standardize or supervise.

The Hypothetico-Deductive Model

Often considered a middle ground, the hypothetico-deductive model involves generating an initial hypothesis based on clinical intuition or pattern recognition and then testing that hypothesis through structured data collection and critical analysis. This approach is commonly used in cognitive-behavioral therapy (CBT), forensic assessment and diagnostic interviewing. It aligns with how experts in many fields process information: rapidly generating impressions based on prior experience, followed by verification and adjustment (Kahneman, 2011).

The strength of this model lies in its iterative nature; hypotheses are provisional and subject to change as new data become available. However, in practice, clinicians often stop the hypothesis-testing loop prematurely, falling prey to confirmation bias or diagnostic closure (Pfeiffer et al., 2000). The model's effectiveness depends heavily on the clinician's metacognitive discipline: their willingness to question assumptions, generate alternative hypotheses and tolerate ambiguity.

Decision models and susceptibility to bias

Each model carries inherent cognitive vulnerabilities. Rational-analytic approaches may underestimate emotional and relational factors, intuitive-humanistic models may favor coherence over accuracy and hypothetico-deductive reasoning may be compromised by insufficient falsification (Table 2). Moreover, institutional contexts often favor one model over others. For example, correctional and forensic settings tend to promote structured assessments and rational-analytic protocols, while private psychotherapy practices may lean toward intuitive or relational frameworks (Park et al., 2016).

Interestingly, Park et al. (2016) propose a triadic typology of decision models "Doctor Knows Best," "Independent Choice," and "Shared Decision-Making" which map not only to cognitive styles but also to power dynamics and client involvement. In the "Doctor Knows Best" model, clinicians retain full decision-making authority, increasing the risk of unchallenged bias. In the "Independent Choice" model, clients are presented with options but bear responsibility for decisions, which may obscure power asymmetries. In contrast, shared decision-making integrates client values, empirical evidence and clinician expertise, creating a collaborative framework that can reduce bias and improve treatment adherence.

Empirical evidence and experimental paradigms

Understanding the presence and impact of cognitive biases in clinical psychology requires more than theoretical speculation it demands rigorous empirical examination. Over the past two decades, researchers have developed experimental paradigms to test how cognitive biases manifest in clinical decision-making and how resistant they are to correction. These studies consistently reveal that clinicians, regardless of experience level, are susceptible to predictable biases even when motivated to be accurate (Garb, 2005; Pfeiffer et al., 2000;).

Pfeiffer et al. (2000) found that clinicians were more likely to seek confirmatory information when they had generated the diagnostic hypothesis themselves, even under accountability conditions. The accountability manipulation had no significant effect on reducing bias, suggesting that mere motivation is insufficient to override intuitive reasoning patterns. This supports the idea that motivation and awareness are not enough to overcome ingrained biases (Kahneman, 2011).

Similarly, Garb (2005) showed that even experienced clinicians often rely on non-diagnostic cues, such as attractiveness or stereotypes, more than objective data.. In some cases, these factors were weighted more heavily than empirical test results or structured interview data. Garb concluded that many clinical judgments are more intuitive than empirical, shaped by mental shortcuts that bypass deliberate reasoning processes.

Table 2.
The Three Clinical Decision-Making Models and Associated Bias Risks.

Decision-Making Model	Definition	Vulnerabilities
Rational-Analytic	Analytical, structured approach using checklists and formal criteria; emphasizes evidence and logical consistency. Often adopted in high-stakes or protocol-driven environments (e.g., forensic assessments).	May underemphasize personal context and clinician intuition. Can still be subject to biases like anchoring (by clinging to initial data points) or confirmation bias (if clinicians selectively use tools that support their first impressions).
Intuitive-Humanistic	Relational, experience-based approach prioritizing clinician intuition and client narratives; values context, empathy and subjective meaning. Common in open-ended therapy settings.	Prone to personal and affective biases (e.g., projection, "halo" effects). The coherence of a good story may be favored over factual accuracy, increasing risks of confirmation bias or availability heuristic (drawing on memorable past cases).
Hypothetico-Deductive	Hybrid approach: generate early impressions (intuition) then test them with data and critical analysis. Used in many evidence-	Effectiveness hinges on thorough hypothesis testing susceptible to premature closure. If the feedback loop is cut short, initial assumptions may

Decision-Making Model	Definition	Vulnerabilities
	based therapies and assessments.	solidify (confirmation bias). Success requires vigilant self-monitoring to avoid clinging to a hypothesis despite contrary evidence.

Miller et al. (2015) conducted a meta-analysis of studies examining whether clinicians' subjective confidence ratings predicted actual diagnostic performance. The findings showed only a modest correlation, with many clinicians exhibiting overconfidence in their interpretations despite weak evidence. This illusion of validity has been implicated in treatment planning errors, miscommunication with clients and resistance to supervision or consultation. Experimental paradigms have also been used to explore how bias interacts with case complexity and clinician experience. For instance, Schottenbauer et al. (2007) examined how integrative therapists responded to case vignettes that varied in clarity and diagnostic ambiguity. Their results indicated that when faced with complex or ambiguous cases, clinicians were more likely to rely on their theoretical orientation and prior experiences than on structured criteria or standardized assessments. This suggests that cognitive load and uncertainty amplify bias, pushing clinicians toward more intuitive and often less reliable decision strategies.

In addition, studies have tested the effectiveness of various debiasing interventions. For example, structured diagnostic tools, checklists and decision-support software have been shown to reduce errors in some contexts (Banning, 2008), but their effectiveness depends heavily on clinician engagement and the organizational culture in which they are implemented. Without reinforcement, clinicians tend to revert to habitual reasoning patterns, especially under pressure.

Importantly, some researchers have examined how biases intersect with systemic inequities. In their analysis of clinical decision-making among racialized populations, Puente-López et al. (2024) noted that diagnostic decisions involving Black and Latino clients were more influenced by availability heuristics and anchoring effects, particularly in high-stress environments such as emergency psychiatric units. This reinforces the idea that biases do not operate in a vacuum, but within sociocultural and institutional structures that can exacerbate their effects.

Collectively, these studies reveal several key conclusions:
1. Biases are robust and pervasive in clinical settings, not limited to novices or high-risk situations.
2. Self-generated hypotheses, while important for engagement, increase bias susceptibility unless paired with structured disconfirmation techniques.
3. Confidence is an unreliable indicator of accuracy and the illusion of validity is common even among experts.
4. Case complexity and ambiguity increase the likelihood of heuristic reasoning.
5. Debiasing requires more than awareness; it needs structural, educational and institutional support to be sustained.

Bias and client outcomes

While much of the literature on cognitive bias in clinical psychology focuses on diagnostic accuracy and clinician judgment, it is essential to emphasize that the ultimate impact of bias is felt by clients. When biases distort case formulation, assessment or intervention, the consequences are not merely theoretical; they shape the trajectory of care, affect therapeutic engagement and influence long-term psychological outcomes. Cognitive biases can compromise the effectiveness, fairness and humanity of psychological services, especially when they go unrecognized and uncorrected. These consequences are particularly critical in populations that already face systemic barriers to care, where bias can exacerbate existing inequalities.

One of the most direct ways that bias affects clients is through misdiagnosis or delayed diagnosis. If a clinician anchors on an early impression or interprets ambiguous symptoms through a biased lens, the resulting diagnosis may be inaccurate or incomplete. Misdiagnosis often leads to ineffective or inappropriate interventions, such as using cognitive-behavioral techniques to treat what is actually an undiagnosed psychotic disorder or personality structure. In other cases, bias may lead to over-pathologizing, where normative behavior is interpreted as pathological based on clinician expectations or cultural mismatch (Puente-López et al., 2024). For example, a Latinx adolescent expressing distress through somatic complaints might be misinterpreted as exaggerating or manipulative, leading to underestimation of underlying trauma.

These errors can severely damage the therapeutic alliance, a key predictor of client engagement and treatment success (Norcross & Lambert, 2019). Clients who feel misunderstood, mislabeled or stereotyped may experience shame, frustration or helplessness. They may withdraw from treatment prematurely, resist participation or disengage emotionally from the process. For example, if a therapist prematurely labels a client as "resistant" or "borderline," future behaviors may be interpreted through that lens, leading to invalidation and rupture (Schottenbauer et al., 2007). In one clinical vignette, a client who missed two sessions due to caregiving obligations was flagged as "noncompliant" and given fewer appointment options, despite previously expressed

motivation. Such misattributions compromise relational safety and reinforce clinician authority over client narrative.

Confirmation bias plays a particularly pernicious role in outcome evaluation. Clinicians who are invested in a particular model or hypothesis may interpret client progress in ways that support their assumptions. They may attribute client improvement to their intervention, even when unrelated factors (e.g., social support, medication changes) are at play. Conversely, they may blame clients for lack of progress without questioning their own formulation. This dynamic can lead to what Dror (2025) calls "biased blame attribution", where treatment failure is externalized to the client's "noncompliance" rather than prompting clinician reflection. This cycle may also demoralize the client, who internalizes failure as personal inadequacy rather than a sign of clinical misalignment.

In institutional settings, the effects of bias are compounded. Clients labeled as "manipulative" or "treatment-resistant" may be denied access to high-quality services, placed on less supportive caseloads or subjected to restrictive interventions. This can occur even in well-intentioned teams, where risk aversion or time pressure leads professionals to replicate prior formulations without re-evaluation. These labels often follow clients across providers, as documentation and communication reinforce early biased impressions. In such cases, bias moves from the level of individual cognition to become a systemic obstacle to equitable care (Dror, 2025; Avorn, 2018).

Bias also affects specific populations disproportionately. Research shows that clients from racial and ethnic minorities, LGBTQ+ identities or neurodivergent profiles are more likely to be misdiagnosed, pathologized or misunderstood (Puente-López et al., 2024). This can result from availability biases (where rare or sensationalized diagnoses are overapplied), attribution errors or culturally insensitive interpretations of behavior. For instance, autistic traits in women are often misread as signs of borderline pathology, leading to stigmatizing interventions and further distancing the client from services tailored to their neurotype. In these cases, bias not only undermines treatment but perpetuates epistemic injustice, where the client's own account of their experience is devalued or discredited (Fricker, 2007).

Perhaps most concerning is the impact of bias on client self-concept and identity. Psychological services play a powerful role in shaping how individuals understand themselves. Diagnostic labels, therapeutic narratives and clinician interpretations can be internalized by clients, influencing their self-esteem, agency and future help-seeking behavior. A biased diagnosis may lead clients to view themselves as "broken," "dangerous," or "incurable," reducing hope and

motivation. This risk is particularly acute among young clients and those in coercive settings such as juvenile detention or psychiatric hospitalization. When these clients return to their communities, they may carry not only the burden of unresolved symptoms but also a distorted sense of identity shaped by biased clinical narratives.

To counteract these harms, clinicians must develop bias-sensitive practices. This includes checking diagnostic impressions against standardized criteria, engaging in shared decision-making with clients and using feedback-informed treatment models to assess progress. Supervision should incorporate routine case formulation reviews with a focus on countertransference, cultural factors and documentation language. Institutions should also invest in culturally responsive care, staff diversity and supervision models that actively explore bias and its effects on clients. Additionally, involving clients in the meaning-making process through collaborative formulation, narrative feedback, or transparent discussions of labels can reduce asymmetries of power and promote mutual understanding.

Mitigation strategies

While cognitive biases in clinical decision-making are pervasive and resistant to introspection, they are not immutable. A growing body of literature has proposed concrete strategies to reduce the impact of biases on psychological reasoning. These mitigation efforts operate at multiple levels individual, supervisory, institutional and systemic and involve both changes in cognitive processing and modifications to the structures in which decisions are made. Importantly, successful mitigation requires more than awareness; it demands tools, training, feedback and accountability frameworks designed to support reflective and evidence-informed judgment.

Below, we review four core domains of bias mitigation with particular relevance to clinical psychology: (1) structured decision aids, (2) training in metacognition, (3) feedback-informed systems and (4) shared decision-making frameworks.

Structured Decision Aids

Structured decision aids, such as diagnostic checklists, decision trees and evidence-based algorithms, have been widely recommended to reduce the influence of intuition and memory limitations in clinical reasoning (Lilienfeld et al., 2015). These tools prompt clinicians to consider all diagnostic criteria systematically, evaluate alternative hypotheses and apply base-rate probabilities to reduce overreliance on salient or recent information (i.e., the availability heuristic). Studies in medicine and psychology have shown that structured approaches increase diagnostic accuracy, particularly in novice clinicians and reduce errors associated with anchoring

and premature closure (Banning, 2008). For example, structured diagnostic interviews such as the SCID-5 have been shown to improve interrater reliability and reduce variability attributable to clinician judgment (Garb, 2005).

However, structured tools are not panaceas. They require time, training and institutional support to be implemented consistently. In settings that prioritize speed or autonomy, clinicians may perceive structured protocols as intrusive or rigid. In educational settings, teaching the rationale behind structured tools through guided case analysis and role-play can reduce student resistance and highlight their value as scaffolding for clinical reasoning. To be effective, decision aids must be integrated into the clinical culture as supportive tools rather than bureaucratic checklists.

Training in Metacognition and Epistemic Vigilance

Metacognition, the ability to reflect on and regulate one's own thinking is a critical skill for recognizing and managing cognitive bias (Kahneman, 2011). Clinicians must learn to ask not only "What do I think?" but also "Why do I think this?" and "What might I be missing?" This involves cultivating epistemic humility, tolerating uncertainty and being open to disconfirming evidence.

Training programs can foster metacognitive skills through structured, theory-informed pedagogical strategies that extend beyond general instruction. These include "think-aloud" demonstrations in which instructors verbalize their real-time reasoning while formulating clinical hypotheses (Lilienfeld et al., 2015), as well as scaffolding techniques such as advanced organizers, guided questioning and reflection prompts to help trainees internalize decision-making routines (Collins & Stevens, 1983). Research shows that integrating case-based simulations with facilitator modeling enhances trainees' ability to monitor, evaluate, and regulate their own diagnostic reasoning (Eva & Regehr, 2005). Additional methods supported in health professions education include:

- Role-plays and structured simulations where trainees must justify competing diagnoses.
- Structured reflection cycles (e.g., "What?", "So what?", "Now what?") embedded in supervision and practicum.
- Peer-led, reciprocal coaching and group debriefings, which have been shown to foster metacognitive growth through collaborative self-explanation and shared critique.
- Reflective journaling on clinical encounters with a focus on cognitive pitfalls.

Collectively, these strategies operationalize metacognitive training by turning implicit reasoning into explicit, teachable processes. Embedding such methods into coursework, clinical practicums, and supervision enhances trainees' epistemic

vigilance and supports the development of bias-mitigating habits early in professional formation.

Supervision models that incorporate structured case formulation and hypothesis testing can reinforce these practices (Kanat, 2023). For example, supervisors may guide trainees to explicitly generate and test alternative explanations, use "diagnostic audit" templates, or maintain a bias-tracking worksheet during clinical practicum.

Dror (2025) emphasizes that awareness alone is insufficient. Without deliberate practice, clinicians revert to familiar reasoning patterns, especially under pressure. Therefore, institutions must build ongoing metacognitive training into clinical routines, supervision and continuing education not as a one-time module but as a core professional competency.

Feedback-Informed Treatment and Performance Monitoring

One of the most powerful correctives to bias is external feedback. Clinicians who receive timely, specific and outcome-related feedback are more likely to detect when their assumptions are not yielding effective results. Tools such as the Expected Treatment Response (ETR) model developed by Lutz et al. (2006) allow clinicians to compare a client's actual progress against statistically expected outcomes based on intake data. When discrepancies arise, they signal a need to revisit the case formulation, treatment plan or therapeutic method.

Feedback-informed treatment systems (FIT), such as the Outcome Rating Scale (ORS) and Session Rating Scale (SRS), provide direct input from clients about perceived progress and the quality of the therapeutic alliance. Meta-analytic reviews have shown that FIT improves outcomes, reduces dropout and enhances clinician responsiveness (Norcross & Lambert, 2019).

Despite this evidence, many clinicians resist feedback due to overconfidence, fear of criticism or institutional barriers. Building a culture of learning and curiosity, where feedback is normalized rather than stigmatized, is essential. Supervisors play a key role in modeling openness to outcome data and helping clinicians interpret feedback constructively. In training settings, using anonymized data from peer cases, group comparisons of session outcome graphs, and "feedback interpretation" workshops can help normalize this process and reduce defensiveness.

Shared Decision-Making

Shared decision-making (SDM) refers to a collaborative process in which clinicians and clients jointly evaluate treatment options, weigh risks and benefits and co-construct a plan of care. Park et al. (2016) contrast SDM with more

paternalistic ("doctor knows best") or laissez-faire ("independent choice") models, showing that SDM reduces unilateral bias, improves client satisfaction and strengthens therapeutic alliance.

Involving clients in decision-making introduces alternative viewpoints that can challenge clinician assumptions. When clients are asked to explain their preferences, express doubts or raise alternative explanations, clinicians are prompted to re-examine their hypotheses. Moreover, SDM has been shown to increase adherence and reduce dropout, likely because it enhances client autonomy and perceived fairness.

Implementing SDM requires clinicians to tolerate ambiguity, practice transparency and share power. This can be challenging in hierarchical systems or risk-averse environments. However, the ethical and clinical benefits of SDM including bias mitigation make it a valuable strategy across therapeutic modalities and settings.

ETHICAL CONSIDERATIONS

The presence of cognitive bias in clinical decision-making is not merely a methodological or practical concern it also raises profound ethical and epistemological questions. As psychologists, clinicians are entrusted with interpreting the inner worlds of others and acting in ways that affect their identities, rights, relationships and futures. When these interpretations are distorted by cognitive bias, the result is not only impaired clinical reasoning, but also violations of ethical principles such as beneficence, non-maleficence, justice and respect for autonomy (APA, 2017).

Bias compromises the ethical foundation of psychological care in multiple ways. First, it undermines the principle of accuracy in diagnosis and treatment planning. Misdiagnosis caused by confirmation bias, for example, can lead to inappropriate or even harmful interventions, stigmatizing labels or delayed access to necessary care (Garb, 2005). In forensic contexts, biased assessments may influence legal decisions about custody, sentencing or involuntary treatment raising serious concerns about fairness and due process (Avorn, 2018).

Second, bias interferes with the relational ethics of therapeutic practice. When clinicians impose their interpretations without adequate regard for the client's perspective, they risk enacting epistemic injustice a term coined by Fricker (2007) to describe the unfair devaluation of someone's capacity as a knower. In clinical settings, this may occur when a client's narrative is ignored, reinterpreted or pathologized through the lens of a biased case formulation. As Puente-López et al. (2024) note, epistemic injustice disproportionately affects marginalized populations, who are already at risk of misrepresentation within healthcare systems.

Third, biases may distort the process of informed consent and shared decision-making, essential components of ethical care. If clinicians fail to disclose uncertainty, present options neutrally or listen to client preferences with genuine openness, the decision-making process becomes ethically compromised. Park et al. (2016) highlight how traditional "doctor knows best" models, which suppress client agency, facilitate unchecked bias and undermine autonomy.

Institutions also bear responsibility in this ethical landscape. Policies that reward speed over deliberation, discourage second opinions or privilege particular theoretical models may unintentionally reinforce biased practices. Ethical institutions promote transparency, encourage diversity of perspective and provide mechanisms for error correction. As Dror (2025) emphasizes, ethical safeguards must be embedded not only in individual reasoning but in the very design of clinical systems. Finally, the ethical imperative to mitigate bias aligns with the broader movement toward culturally responsive and socially just psychology. Recognizing that bias is often entangled with structural inequality, clinicians must develop cultural humility, seek supervision on cross-cultural issues and advocate for systemic change when client care is compromised by institutional bias.

CONCLUSIONS

Cognitive biases are not peripheral defects in the machinery of clinical reasoning; they are central and persistent features of how human minds make sense of complex, uncertain and emotionally charged information. In the practice of clinical psychology where interpretation, narrative construction and interpersonal judgment are fundamental biases pose a direct threat to diagnostic accuracy, therapeutic efficacy and ethical integrity.

Across the evidence reviewed, including experimental studies, process research and theoretical models, it is clear that biases such as confirmation bias, availability heuristic, anchoring, overconfidence and the illusion of validity shape how clinicians generate and test hypotheses, select interventions and evaluate outcomes. These biases operate subtly, often unconsciously and are resistant to correction through awareness alone (Pfeiffer et al., 2000; Kahneman, 2011). They are also context-sensitive, magnified by factors such as time pressure, caseload volume, emotional salience and institutional norms.

The effects of bias extend beyond cognitive distortion to impact client outcomes, therapeutic alliances and the distribution of psychological services. Biased judgments can lead to misdiagnosis, mistreatment, ruptures in the alliance and long-term psychological harm particularly for clients from marginalized communities, whose experiences are more

likely to be misinterpreted or dismissed. When biases accumulate and go uncorrected, they can propagate through documentation, team communication and systemic processes, leading to what Dror (2025) describes as bias cascades and snowball effects.

Mitigating these risks requires a multi-level approach. At the individual level, clinicians must cultivate metacognitive skills, epistemic humility and a willingness to entertain competing hypotheses. At the institutional level, decision aids, feedback systems and supervision models must be structured to support reflective practice and error correction. Shared decision-making offers a particularly promising avenue, aligning ethical imperatives with clinical efficacy by including clients as active agents in their care.

Cognitive biases are not simply problems of knowledge they are challenges of ethics, power and interpretation. Addressing them demands both technical strategies and a rethinking of the clinician's role: from expert diagnostician to collaborative meaning-maker, from confident interpreter to critical self-inquirer. As clinical psychology continues to evolve toward greater evidence-based practice, cultural responsiveness and interdisciplinary integration, it must also embrace the science of decision-making as part of its foundation. Cognitive bias is not an enemy to be eradicated, but a vulnerability to be managed a constant reminder that to know another person requires not only knowledge, but self-knowledge.

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